

THE CHEMIST & DRUGGIST

SUMMER ISSUE

JULY 30, 1910

Established 1859.

Subscription, 10s. a year, post free.
Single weekly issue, 6d.
Summer or Winter issue, 1s. . . .

The Official Organ of Nineteen Societies of
Chemists, Druggists, and Pharmacists
at Home and Abroad.

Head Office:
42 Cannon Street, London,
England.

Contents.

Summary.

Vol. LXXVII., No. 5 Series (No. 1592).

The more notable items only are dealt with.

	PAGE.		PAGE.
Aphorisms Prize Awards	163	Chemists and their Windows	161
Bankruptcy Reports	139	Company News	140
Births	140	Correspondence	218
British Medical Association	155	Deaths	141
BRITISH PHARM. CONFERENCE:			
Francis Ransom, President	185	Deed of Arrangement	140
Presidential Address	186	Editorial Articles:	
First Session	190	The B.P.C.	148
Speeches of Welcome	190	The Dental Bill	149
Annual Reports	192	Otto of Rose	149
Disinfectants, by Wood-		Clergyman's Sore Throat	150
head and Ponder	193	Medicinal Wines and	
—by Kingzett and Wood-		Spirits	150
cock	194	Notes	150
—by Hewlett	195	English News	135
—by Somerville	195	Federation and Conference	154
Water Analysis, by Furvis	196	French News	136
Old Herbals, by Green	196	Gazette	140
Second Session:			
Delegates	197	German News	137
Turmeric, by Alcock	197	Illustrations from Life	160
Oil of Anise, by Knapp	197	Information Department	156
Cinnamon Oil, by Umney	197	Irish News	136
and Bennett	198	Legal Reports	138
Essential-oil Monographs		Lia. Santal. Flav. Co., by	
by Henderson	200	R. C. Cowley	164
Elements-periodicity, by		Marriages	140
Tocher	202	Medical Gleanings	209
Native Reserves, by Druce	202	New Companies	140
John Ray, by Druce	203	Observations and Reflec-	
Phosphoric Acid, by Wallis	203	tions	147
Belladonna Pest, by Per-		Old Trade Stationery, by	
redes	204	F. W. Burgess	165
Asafetida, by Umney and		Penny Trade	165
Bunker	205	Personalities	141
Ergot, by Franklin and		Pharmaceutical Types	164
Haynes	207	Pharmacies, British and	
Cimicifuga, by Finnemore	208	Foreign	169
Chlorof. Bellad., by Quant	208	Pharmacy in Bern and Bale,	
Ampoules, by Stephenson	208	by W. Maskew	172
Bassia Latifolia, by Ben-		Practical Notes	176
nett and Anklesaria	209	Retrospect	220
Brussels Exhibition	177	Scientific Progress	159
Business Changes	153	Scots News	136
Cambridge Pharmacies	181	South African News	137
Canadian News	137	Success and its Elements	159
Chemists' Windows	162	Summer Issue Insets	142
		Trade Notes	144
		Trade Report	216
		William the Porter	165

Trade and Market Matters.

The otto-of-rose harvest in Bulgaria is now over. This year an unusual amount of adulterants has been put in the stills, and buyers must be on their guard (p. 149).

Market fluctuations up to the time of closing for press on Wednesday include a reduction in quicksilver and codeine and salts. Castor oil, clove oil, nut oil, linseed, dill-seed, and digitalis are dearer; insect-flowers are lower (p. 216). A full report of the drug auctions will be found in our Coloured Supplement.

The Week's News.

Australia is revising its pure-food regulations (p. 160).

The Board of Trade are to revise the scales for ships' medicine-chests (p. 135).

More grand prizes have been awarded at the Japan-British Exhibition to chemical exhibitors (p. 135).

The proprietors of "Wincarnis" are seeking an injunction against the makers of "Carvino" (p. 138).

We give several columns of notes on the exhibits shown in the Imperial Institute in connection with the annual meeting of the British Medical Association (p. 155).

The hearing of the action *Tosh v. W. Cooper & Nephews*, in the Official Referee's Court, has brought out interesting points regarding disinfectants in India (p. 138).

The Speaker has ruled out of order the amendment to the County Common Juries Bill exempting chemists and druggists from service. The Bill has passed without it (p. 162).

The tests in the forthcoming new edition of the German Pharmacopoeia are so novel that the Prussian Government is giving its pharmacy inspectors a collegiate course of instruction in regard to them (p. 137).

At a meeting of the Federation of Pharmaceutical Associations held in Cambridge on Tuesday, it was resolved to recommend the British Pharmaceutical Conference to divide its proceedings into scientific and practical sections, the latter to include some of the matters which the Conference has been in the habit of dealing with. If this is done it is intended that the Federation shall cease (p. 154).

Articles and Communications.

Some fresh hints about window-dressing for chemists will be found on p. 161.

William the Porter warns all concerned in pharmacy about joking with customers (p. 165).

Some of the advertising fallacies of people in the drug-trade are criticised in an article on p. 160.

Mr. F. W. Fletcher, F.C.S., tells in an interview about some of the elements of success in business (p. 159).

Pharmacies in Rhodesia, the Transvaal, Finland, and China are described, with numerous illustrations (pp. 169-71).

Clergyman's sore throat is regarded as an ailment by the Board of Customs and Excise. See the article on p. 150.

(Continued on the next page.)

E

EDUCATIONAL NUMBER.

THE annual Educational Number of THE CHEMIST AND DRUGGIST will be published on August 13. It will deal with the curricula and examinations required for qualifications in pharmacy, medicine, dentistry, veterinary surgery, and science. It will contain much useful information, and the number will have an extra circulation to institutions which buy chemicals, drugs, scientific apparatus, and educational works. For further particulars, please write to the Publisher, 42 Cannon Street, London, E.C.

The proposed Dentists Act Amendment Bill has brought us numerous letters of protest (p. 218), but we show in an editorial note that there is no present need for alarm, and that the Bill contains, besides its attack on chemists, elements which ensure its failure (p. 149).

British Pharmaceutical Conference.

The forty-seventh annual meeting opened at Cambridge on Monday evening with a reception by Dr. Reynolds Green and the Local Committee in St. John's College (p. 151).

The Sessions of the Conference were held in the lecture theatre of the Botany School on Tuesday morning, the members being welcomed by the Deputy Vice-Chancellor of the University and the Mayor of the town, whose speeches are reported on pp. 191-2.

The meeting was attended by about 200 members and their friends. A group of them is printed on p. 152.

Mr. Francis Ransom, of Hitchin, is the President of the year, and he delivered an address on some aspects of pharmaceutical research. In this he dwelt upon the necessity (towards that end and independent of the requirements of the retail drug trade) for a high standard of examination, and intimate study of botany. He proceeded to discuss the basis of drug valuation, dealing especially with ipecacuanha and the standardisation of galenicals. Reference was also made to the leading communications of the meeting, which were on the standardisation of disinfectants, and after a glance at synthetic remedies, Mr. Ransom advocated statutory participation of pharmacists in revising the British Pharmacopoeia, and completed an unambitious but pleasurable discourse with a reference to medical and pharmaceutical co-operation as exemplified in the Conference and British Medical Association *entente*. The address is printed verbatim on pp. 186-190 and is preceded by an appreciation of the President (p. 185).

The report of the Executive and the Treasurer's report showed that the Conference has something in the neighbourhood of a thousand members. The position was viewed with some dissatisfaction by Mr. R. A. Robinson and Mr. John Smith (Dublin), who moved the adoption of the reports (p. 193).

Twenty-one papers were communicated to the meeting. Four of them were on the testing of disinfectants, four were on botanical subjects, three on essential oils, four on drug analysis, three on dispensing or galenical subjects, two on analysis of chemicals, and one was philosophical. The Honorary Secretaries have been good enough to supply us with advance copies of all of them, so that we have been able to digest them in advance, and present the salient facts in as brief space as is possible in justice to the authors.

The disinfectants papers were by Sims-Woodhead and Ponder on bacteriological standardisation; C. T. Kingzett and R. C. Woodcock followed on the same subject; R. T. Hewlett criticised the Woodhead-Ponder method, and Dr. A. Somerville read the fourth. The Rideal-Walker process figured largely, and Dr. Rideal opened the discussion. The papers (especially the second) showed how conditions of contact, temperature and other natural factors modify the conclusions of experiments *in vitro* (p. 196).

Chemical purity of domestic waters may be accompanied by bacterial imperfection. This was the gist of Mr. J. E. Purvis's observations on "the limitations of water-analysis reports." His examples were from two good public water supplies. Not a pharmaceutical paper, but it is on p. 196.

Dr. Reynolds Green, the botanist, was Chairman of the Local Committee, and he read some notes on the old botanical works found in the Cambridge University libraries. The oldest one is Cuba's "Morbus Sanitatis," dated 1485. The paper is on p. 196.

The Second Session of the Conference opened on Wednesday morning with the reception of delegates from Societies and Associations connected with pharmacy, after which more communications were read and discussed.

In a note on turmeric, Mr. F. H. Alcock gave ash and extractive factors of over a dozen commercial specimens, showing wide variation (p. 197).

When anise oil is kept for ten years or so it changes remarkably, especially in regard to melting-point. Mr. A. W. Knapp finds that polymerisation of anethol into isanethol seems to occur, and he gave in his paper other interesting observations (p. 197).

Oil of cinnamon is at present creating considerable interest, consequent on the fact that oils are found on the market which are not adulterated in the ordinary sense, yet are not genuine. Messrs. Umney and Bennett, following up the recent paper by Mr. C. A. Hill in the *C. & D.*, support his contentions, dissent from a recent American

view that cinnamic aldehyde alone is the criterion for cinnamon oil, show the confusion between cassia and cinnamon, and insist that oil cinnam. ver. should yield both light and heavy fractions. English oil does; Continental oils yield heavy fractions only (p. 198).

Mr. H. J. Henderson, in very caustic vein, criticised the proposed B.P. essential oil monographs of Messrs. Hill and Umney, and gave his own factors for olei anethi, anthemidis, carui, copaibæ, lavandulæ, pimentæ, and rosmarini (see p. 200).

Mr. J. F. Tocher, ex-President of the Conference, exhibited a model of his new arrangement of the elements to show the periodicity of their properties. A photograph of this, and his observations upon it, will be found on p. 202.

Mr. Claridge Druce read two racy papers. One was about John Ray, the eighteenth-century botanist, who was a Cambridge man by education and association. Mr. Druce submitted a newly discovered MS. of Ray's, but did not confine his observations to it. We illustrate our abstract with a portrait of Ray (p. 203). In his second note Mr. Druce spoke of the significance to naturalists of the acquisition by Mr. Charles Rothschild of Wood Walton Fen. It will preserve the plants, birds, butterflies, reptiles, etc., peculiar to this part of Cambridgeshire (p. 203).

Mr. T. E. Wallis described how phosphoric acid may be quantitatively determined by a magnesia mixture method. He also reported on commercial ammonium phosphate, and confirmed the correctness of Squire and Cairns method for preparing a pure phosphate conforming to official requirements (p. 203).

Epitrix tropa is a little beetle, not unlike the ladybird, which has been thriving on the belladonna grown on Mr. Ransom's farm. Mr. P. E. F. Perrédès has investigated it, and told the B.P.C. members all about it in the thorough manner which characterises his researches. The paper is illustrated with photographs of the plants, and drawings of the insect and its parts (p. 205).

The paper on asafetida by Messrs. Umney and Bunker is one of the most important contributions to our knowledge of this drug which we have had for some years. After quoting a memorandum by Mr. Holmes on the origin of the drug, the authors described their experiments on mass and tear asafetida, showing that although the mass yields more essential oil than the tears, oil from the tears is richer in sulphur by five to one, and inferentially the drug in tears is more active therapeutically. The research also indicates that the mass and tears are not of the same origin (p. 205).

The improved method of preparing ext. ergotæ liq. described by Mr. J. H. Franklin, is to use a hydro-alcoholic menstruum instead of water. He gave analytical results of his experiments and physiological data, determined by Dr. G. S. Haynes, which proved the superior activity of the hydro-alcoholic preparations (p. 207).

In his paper on the chemistry of *Cimicifuga racemosa* rhizome, Mr. Horace Finmore, junior Secretary of the Conference, described the results of extraction of a large quantity of the drug with solvents. The plant constituents isolated are not particularly characteristic, but he obtained evidence of the presence of alkaloid and salicylic acid in minute quantity (p. 208).

To make chloroform. belladonnæ at the dispensing counter, Mr. E. Quant shakes the liquid extract with chloroform and dried sodium sulphate. The sulphate absorbs the water and the chloroform the active ingredients, so that the filtrate is belladonna chloroform approximately B.P. (p. 208).

Mr. T. Stephenson fills hypodermic ampoules at the dispensing counter by means of a hypodermic syringe. His communication also explained how to sterilise the ampoules (p. 208).

The flowers of *Bassia latifolia* contain 63 per cent. of sugars—49.8 invert and 13.4 cane sugar. So Messrs. Finmore and J. D. Anklesaria told in their paper (p. 209).

The winding-up business was not reached until Thursday morning, when Portsmouth was selected as the place of meeting next year, and Mr. W. F. Wells, of Dublin, was elected President (p. 141).

The social side of the meeting is dealt with in the news section of the issue, and is illustrated by photographs, several of them taken on Tuesday (p. 151).

When the time for closing Wednesday's session was reached there were still three papers to dispose of, and these were carried over to Thursday. This part of the proceedings we propose to deal with in our Coloured Supplement, as this section of the issue is closing for press on Wednesday evening.

English and Welsh News.

When sending Newspapers containing Trade news to the Editor please mark the items.

Brevities.

A meeting of the National Cash Register Users' Protective Association was held at the Holborn Restaurant on Wednesday, July 27.

Arthur Daniel Lawrence, obesity specialist, Lancaster Gate, W., has been examined in bankruptcy, his liabilities being estimated at 700*l.* and assets *nil*. He told the Court that he had been unable to advertise adequately.

Japan-British Exhibition Awards.

It is intimated that, in addition to the awards announced in the *C. & D.* of July 9, Grand Prizes have been given to the following:

Burroughs Wellcome & Co., for collective exhibit.
Burroughs Wellcome & Co., for social and benefit club statistics.
Wellcome Chemical Research Laboratories, for chemicals.
Jeyes' Sanitary Compounds Co., Ltd., for Jeyes' Fluid, etc.
Dr. Jokichi Takamine (as Collaborateur), for adrenalin and taka-diastase.

Ships' Medicine-chests.

The question of thoroughly overhauling the existing scales of drugs at present prescribed for use on board ship, which was referred to in our issue of July 2 (p. 35), has had the careful consideration of the General Shipowners' Society of London, the committee of which has addressed a letter to the Board of Trade expressing the opinion that many of the drugs which, in accordance with the provisions of the existing medical scales, ships were compelled to carry were practically never used. Also that excessive quantities of certain drugs were carried—regard being had to the faster passages now made by steamers as compared with the days of sailing-ships, when the medical scales were first drawn up. Upon the other hand, the existing scales omitted certain remedies which the committee were advised should now form part of the medical equipment of every vessel. To this letter the Board of Trade replied under date of June 22 that "in view of the representations made by the Society, the question of revising the medical scales will be considered forthwith," and adding that "it would be of material assistance to the Board if the Society and their advisers would be so good as to specify which of the items in the present scales they consider to be obsolete." This matter is now receiving the attention of the General Shipowners' Committee.

Analysts' Reports.

The Southwark analyst, in his quarterly report, states that four drug-samples were analysed and found to be genuine.

The Woolwich analyst reports on the following samples taken during the past quarter: Camphorated oil 3, orange-quinine wine 2, and compound liquorice-powder 1. All were genuine.

The analyst for the East Riding of Yorkshire examined during the last quarter eight samples of sweet spirit of nitre. Of these, six were unsatisfactory, the vendors of those 5.9, 6.0, 16.1, and 23.4 per cent. deficient in ethyl nitrite being cautioned, while the seller of a sample 34 per cent. deficient in ethyl nitrite was fined 6*s.* and 18*s.* costs. Proceedings are pending in regard to a sample 62 per cent. deficient in ethyl nitrite.

Contracts.

The following tenders have been accepted:

Cardiff.—Messrs. Duck & Sons, chemists, for the supply of photographic materials.

Hyde Town Council.—Mr. R. S. White, chemist and druggist, Hyde, for drugs to the hospital, for six months.

Cardiff Hospital.—Burgoyne, Burbidges & Co., for the supply of drugs at 34*l.* 3*s.* There were four other tenders sent in.

Birmingham Notes.

Herbalists' shops are greatly on the increase in this city; two have recently been opened with a window display of choice specimens of familiar medicinal herbs.

The chemists, like the local grocers, are craving for shorter hours of business; one of them has actually suggested 9 A.M. until 6 daily, and 2 o'clock on Saturdays.

Sir Thomas Barclay has been elected by the Wesleyan Conference, meeting at Bradford, as one of their representatives at next year's Ecumenical Conference to be held at Toronto.

Mr. F. J. Gibson, of Wolverhampton, member of the Pharmaceutical Council, who with Mrs. Gibson attended the British Pharmaceutical Conference meeting, is a native of Cambridge. His father was for many years the governor of the County Gaol.

Various Charges.

At Warrington Police Court on July 20, John Crisp, commission agent, 348 Moseley Road, Birmingham, was charged with receiving a quantity of fly-papers and other goods, knowing the same to have been unlawfully obtained. At the same time George Harris and Barbara Harris, 6 Parker Street, and Fred Clarke (or Firth), 10 White Street, Warrington, were charged with having obtained 37*s.* worth of fly-papers by false pretences from a Reading chemist. The Chief Constable made a statement and gave evidence as to Harris and Clarke taking premises at Kerfoot Street, Warrington, for "Simpson's Supply Stores." The prisoners were remanded for a week, Crisp on bail. [See the letter of the Secretary of the P.A.T.A. in the *C. & D.*, July 23, p. 130.]

On July 25 the Court of Criminal Appeal heard the appeal of Albert Edward Turner, who at Sheffield City Sessions was sentenced to four months' hard labour for false pretences.—Prisoner appealed against conviction. The Lord Chief Justice, delivering the judgment of the Court, said the prisoner purported to trade as the "Crescent Chemical Co.," and he sent to a local chemist in Sheffield an order, upon a proper form, for some goods, leading the chemist to believe that he was a genuine trader. As a matter of fact, it was found that the man occupied a room in a back street and he sent the order from a public-house. There were also counts against prisoner under the Debtors Act, and even if he was successful in his appeal against the charge of false pretences on technical grounds, he could be indicted on the charges under the Debtors Act.—The Court dismissed the appeal.

Poisoned Sweets by Post.

At the Marylebone Police Court on July 25 Mme. Henriette Bertot, of Lancaster Gate, London, W., was summoned under the Post Office Act, 1908, for sending by post to Mlle. Marie Lauraint, of 64 Lancaster Gate, W., a packet containing a noxious and deleterious substance—namely, perchloride of mercury. Mlle. Lauraint was formerly directress of a London home for French governesses, but left in October last. The defendant, who succeeded her, was previously resident secretary, and it was alleged that owing to ill-feeling between the two ladies Mme. Bertot forwarded to the complainant a box containing poisoned sweets.—Mr. C. E. Sage, F.I.C., Ph.C., stated that his analysis showed that the sweets were impregnated with mercuric chloride, a very poisonous substance. He tasted one of the sweets and he felt the caustic effects last for two weeks.—The Magistrate (Mr. Paul Taylor): Talk about a martyr to science.—An expert on handwriting gave evidence to the effect that the writing on the package and an anonymous letter was similar to that on documents admittedly written by accused. The case was adjourned until September.

Poisoning Cases.

Nine fatalities, including two misadventures, have been reported up to Wednesday night, since our last issue.—*Chlorodyne* taken in accidental overdose was responsible for the death of Captain Peter Marshal (48), of Barry, who

died at sea.—*Carbolic Acid*. A Truro man, named William Toy (61), committed suicide by taking this poison, owing to the drunken nagging habits of his wife.—At Hull, Maria Beal, a plumber's wife, took a quantity of carbolic acid in mistake for her medicine, with fatal results.—*Oxalic Acid*. An open verdict was returned at the inquest on Arnold F. Kallbrook, who poisoned himself with this acid.—*Potassium Bichromate* was used for suicidal purposes by Isabella Palmer (40) at Islington. At the inquest the Coroner remarked that the canister containing the poison was labelled "Cocoa Essence."—*Salt of Lemon* was taken by Henrietta Memory (24), of Hackney, to end her life.—*Spirit of Salt* poisoning caused the suicidal death of Mary Cornish (39), the wife of a brass-finisher, of Wells Street, London, W.; and also of Joseph Devitt (43), waiter, Hackney.—At Seacombe, Martha Donaldson (35), wife of an Egremont pilot, poisoned herself by taking spirit of salt.

Irish News.

When sending Newspapers containing Trade news to the Editor please mark the items.

Brevities.

Mr. J. O'Brien, Ph.C., 37 Church Street, Athlone, was unanimously co-opted a member of the local District Council on July 20.

Sir Wm. J. Baxter, J.P., Ph.C., Coleraine, presided at one of the sectional meetings of the Health Congress in Birkenhead last week. Lady Baxter also spoke at the ladies' conference on Ladies' Hygiene.

All persons having claims against the estate of the late Mr. Joseph Williamson, Ph.C., 167 Cromac Street, Belfast, should furnish particulars to Mr. F. J. Orr, 41 Chichester Street, Belfast, on or before September 1.

Messrs. John Clarke & Co., wholesale druggists, have removed from their temporary offices, 68 Victoria Street, Belfast, to their new premises in Corporation Street, on the site of their old premises which were destroyed by fire about eighteen months ago.

Mr. T. Mather Thomson, M.P.S.I., manager of Mr. George Brown's branch, St. Stephen's Green, Dublin, has been awarded the Barker Anatomical prize of twenty-five guineas at the Summer Sessional examination of the Royal College of Surgeons in Ireland, and Mr. Frederick W. Warren, L.P.S.I., Navan, has been awarded the gold medal in operative surgery.

Druggists' Successful Appeal.

At Belfast Assizes on July 25, before Mr. Justice Dodd, Messrs. Wm. Woods & Co., wholesale druggists, Waring Street, appealed against a decision in the County Court granting a decree for 25*l.*, and 18*l.* 14*s.* 9*d.* costs as taxed, in a remitted jury action brought against them by James Boyd, grocer, Carnmoney, to recover damages for loss caused as alleged by the appellants having maliciously and without reasonable cause procured an adjudication of bankruptcy against the respondent, and by the appellants having unlawfully conspired to procure an adjudication of bankruptcy maliciously and without reasonable and probable cause against the respondent. His Lordship, after evidence, reversed the decision of the Court below, and dismissed the case on the merits, with costs.

Scots News.

When sending Newspapers containing Trade news to the Editor please mark the items.

Brevities.

At Edinburgh University Mr. Leonard S. Willox, Ph.C., has passed, with distinction, the Class examinations in forensic medicine, public health, mental diseases, and operative midwifery and gynaecology, and has also passed the Professional examinations in forensic medicine and public health.

Among the successful students at the last Glasgow examination of the British Optical Association the following pharmacists from the Glasgow College of Optics

were successful in passing the full examination (three sections): Messrs. W. D. Croll, Paisley; D. Dunnet, Glasgow; M. Fenton, Kirkcaldy; A. H. Forrester, Kirkcaldy; and T. H. Galbraith, Greenock. The following entered for and passed two sections: Messrs. M. K. Watt, Aberdeen, and D. McKenzie, Glasgow. Out of eleven students from the College ten were successful.

Fife.

Mr. A. Hogg, chemist and druggist, High Street, Leven, has been reappointed Chairman of the Leven and Methil Gas Company.

Pharmacists at the various watering-places in Fife are exceptionally busy at present. There is a large demand for salines and toilet requisites.

Mrs. William Kerr, Cowdenbeath, has recovered 10*l.* and expenses from Patrick J. Goggins & Co., dentists, Cowdenbeath, for a negligent and unskilful dental operation on her by an assistant, who dislocated her jaw in extracting a tooth.

At the Kinghorn Golf Club's summer meeting last week, Mr. W. J. M. Key, son of Mr. G. B. Key, chemist, Kirkcaldy, took second prize, and his father third—the latter due to the heavier handicap, as Mr. Key, sen., went round in 81, and his son in 86.

Sheriff Shennan, of the Dunfermline Court, in the slander action by Edward Gordon, chemist and druggist, Kelty, against Dr. Darabshaw Fardoonji Sanjana, Kelty, has allowed the parties a proof of their averments and appointed the case to be put to the roll in order to fix a diet of proof. His Lordship had come to be of opinion that the alleged statements by the defender might be interpreted as intended to injure the pursuer professionally and commercially.

French News.

(From the "C. & D." Correspondent.)

THE GENERAL ASSOCIATION OF FRENCH PHARMACISTS has now affiliated to it eighty-five local Associations representing 6,500 pharmacists.

THE PORTRAIT OF DUPUYTREN, by Horace Vernet, has been bequeathed to the Louvre Museum by M. Louis de Beaumont, grandson of the great surgeon.

ACADEMY OF SCIENCES.—Professor Ray-Lankester has been elected Foreign Associate of the Academy, in place of the late Professor Koch. Professors Van T'Hoff, of Berlin, and Lorentz, of Leyden, were candidates.

MOTOR ACCIDENT.—M. Artige, pharmacist at Aubenas, accompanied M. Pradal, Senator of the Ardèche, and M. Leynaud on a local electioneering tour. The car fell into a deep ravine near St.-Etienne de Boulogne. The senator was killed, and the pharmacist and M. Leynaud were severely injured.

SHIPS' MEDICINE-CHESTS.—A petition was addressed to the Minister of Marine by the General Association of French Pharmacists asking that the inspection of ships' medicine-chests should be entrusted to pharmacists and not to possibly incompetent authorities as at present. The Minister has replied that when the present system has been proved to be inefficient he will go into the matter. Pharmacists are now to approach M. Roux (head of the Analytical Laboratory at the Ministry of Agriculture) on the subject.

WORKING OF THE ADULTERATION ACT.—A medicine was seized in a provincial pharmacy by an inspector under the 1905 Act and it was found to be pure. This result was communicated to the pharmacist by a gendarme, a fact which the Pharmacists' Association resent, and protested to M. Roux, who has replied that the terms of the notice are such that many pharmacists place it in their shop-windows as a testimony of good faith. It runs:

The examination of the samples of taken on Mr. premises reveals no infraction of the law.

Possibly one of these days the common-sense method of sending such notices by post will be adopted, and the gendarmes left to do their more legitimate and useful work of patrolling.

Canadian News.

(From the "C. & D." Correspondent.)

SELLING PHOTO-FILMS ON SUNDAY.—In the Montreal Recorder's Court on July 16, Mr. Herbert H. Lyons, druggist, 423 St. Catherine Street, was fined \$5, and costs, for unlawfully selling articles in his store other than drugs, medicines, and surgical-appliances, on Sunday. The article sold was a camera-film.

"LISTERINE" TRADE-MARK.—Mr. Justice Archibald has dismissed the action taken by the Lambert Pharmacal Co., Missouri, against J. Palmer & Sons, asking for a permanent injunction and damages on the claim of alleged infraction of trade-mark. The plaintiffs are manufacturers of "Listerine," and they claimed that their patent-rights had been infringed by the sale, on the part of the defendants, of "Listerated tooth-powder." His Lordship held that listerine, being regarded as a trade-substance, could not be made the subject of an infraction of trade-mark.

EARLY CLOSING IN MONTREAL.—The Mayor of Montreal has received delegates from the Executive Council of the Association of Pharmacists, who asked for some modification in the early-closing by-law as far as pharmacy is concerned. At present the drug-stores are permitted to sell medicinal articles after the hours when the ordinary stores are closed. What the delegates asked was that this class of store be either absolutely forbidden to do business on the nights when early closing is in force, or an exception should be made, allowing them to remain open as on any other night. The druggists' proposal is to be considered.

PATENT-MEDICINES ACT.—Mr. H. H. Lyons, druggist, Montreal, has been fined \$20, and costs, for contravention of this Act. There were three charges, but decision was suspended in two cases. The case has attracted very considerable attention throughout Canada. The offences, as established by the Crown's witnesses, were that Mr. Lyons had on January 15 neglected to place upon a bottle of Pasteur's compound syrup of hypophosphites the manufacturer's name and address, had offered for sale Pasteur's solution of iron and manganese peptonised without a numbered certificate of registration, and had omitted to place upon a bottle of Pasteur's solution the manufacturer's name and address. For the defence it was contended that the label on the bottle gave the list of ingredients, and that Mr. Lyons was not obliged under the law to print the entire formula, that the medicines were not patent-medicines, and therefore they did not have to be registered. These contentions were overruled.

South African News.

"The Chemist and Druggist" is regularly supplied by order to all the members of the seven Societies and Associations of Chemists in business in British South Africa.

Transvaal.

PROPOSED ELECTRO-CHEMICAL WORKS.—According to the "South African Mining Journal" of June 25, it is proposed to establish at Tweefontein an electro-chemical works for the manufacture of nitric acid, cyanides, calcium carbide, fertilisers, and other chemicals. The electric power required will be obtained from a new generating station.

POLICE-COURT NEWS.—At the Johannesburg Police Court, during the week ended July 4, two cases attracted considerable attention. In the first instance Arthur Bergerson preferred a charge of robbery against William Paxton Skinner, dentist, Adderly House, Eloff Street, Johannesburg, and his assistant, John Venton. It was stated for the complainant that the defendants nearly strangled Bergerson and robbed him of a false gold tooth under pretence of re-polishing it. Bergerson still owed Skinner for the tooth, and two medical men deposed that Bergerson bore no marks of the alleged assault. The Magistrate (Mr. Schurmann) discharged the accused. [The local "Mail" depicted in a cartoon the possible occurrences of other trades-

men and professional practitioners adopting the alleged methods of bringing debtors to book.]—In the second case "Dr." Sterling Jones was fined 75l. on each of two counts for practising in Johannesburg without being in possession of the necessary certificate. The fine was not paid, and the alternative was six months' imprisonment with hard labour for each offence. The prisoner conducted a lengthy and amusing cross-examination of the principal witness against him.—Henry Arthur Ashe, described as a chemist, has been arrested on a charge of obtaining money by false pretences from Mr. J. S. Warren, chemist and druggist, Marshall Street, Jeppe, by representing that he was employed by Mr. B. Owen Jones, of Boksburg.

German News.

PRUSSIAN MINISTRY OF MEDICINE.—By a decree which comes into force in April 1911, the "Medicine Department" of the Prussian Ministry will be attached to the Ministry of the Interior instead of forming a branch of the Ministry for Religion and Instruction as hitherto. It is doubtful whether the new order of things will continue for long, as there is a demand from many quarters for an independent Ministry for Medicine and Hygiene.

GERMAN IMPERIAL INSURANCE BILL.—Further discussion of the Imperial Insurance Bill in the Reichstag Committee has led to a revision of the paragraphs dealing with the relations between pharmacists and sick clubs. German pharmacists will scarcely be satisfied with the new paragraphs since, except for medicines sold by pharmacists only, the sick clubs will be entitled to enter into contracts with druggists. The removal of the druggists' disqualification, if it should become law, is bound to increase the number of so-called druggists' businesses. The demand of pharmacists that retail prices should not be the subject of arbitration before a mixed Board, but should be settled between the pharmacist and the sick club, has been disregarded by the Committee, as also the objection raised to the compulsory discount to be granted on prescriptions.

GERMAN PHARMACOPŒIA.—The inclusion in the forthcoming edition of the German Pharmacopœia of several new methods of analysis and the alterations adopted with regard to a large number of the tests have led to the proposal of instituting special post-graduate courses at various universities for the benefit of owners as well as of pharmaceutical assistants. It is pointed out that the rapid strides made during the past years in analytical chemistry render it practically necessary for the pharmacist to receive proper tuition in this respect to enable him to apply the knowledge thus acquired to the best advantage in his own interests, and that the attendance at such courses would be by no means derogatory to the position of the profession. After the appearance of the last edition of the Swiss Pharmacopœia a course of this kind for the benefit of Swiss pharmacists was held by Professors Tschirch and Hartwich. The Prussian Budget provides for the current year an expenditure of 300l. for instructing the inspectors of pharmacies in the new analytical methods of the fifth edition of the German Pharmacopœia; the first of these courses will be held at the Pharmaceutical Institute in Berlin-Dahlem from September 22 to October 1, under the direction of Dr. Fröhlich. The new edition of the Pharmacopœia is awaited with considerable interest by the profession as well as by the manufacturers, as it is generally expected that its appearance will bring a solution of the very vexed question regarding the compulsory preparation of a large number of galenicals by pharmacists themselves. In fact, if this measure is to be introduced uniformly throughout the empire (it already exists in Hamburg), the Pharmacopœia is practically the sole work wherein a decision of this kind can be laid down and consequently enforced on a uniform basis.

NITRATE MANUFACTURE IN NORWAY.—The Badische Anilin und Soda Fabrik are erecting works in Norway for the electrolytic production of nitrates from the air, and it is expected that part of them will be in operation soon.

Legal Reports.

High Court Cases.

[Unless where otherwise stated the actions are in the High Courts of Justice, London.]

OOWANA SOAP.

On July 22 the case of the Oowana Soap Co., Ltd., v. John Knight, Ltd., was heard in the Court of Appeal, before Lords Justices Moulton and Buckley, upon the defendants' appeal from an order of Mr. Justice Pickford in Chambers relating to discovery (see *C. & D.*, July 2, p. 8). Mr. F. E. Smith, K.C., appeared in support of the appeal, which Mr. Moore, on behalf of the plaintiffs, resisted; and in the result their Lordships made an order that the defendants should have discovery of the books to the time when the National Manufacturing Co. became interested in Oowana soap, the plaintiffs to have the right to seal up all irrelevant matter. The costs of the appeal were made costs in the cause.

"WINCARNIS" AND "CARVINO."

In the Chancery Division on July 22, before Mr. Justice Swinfen Eady, Mr. Buckmaster, K.C., said he had a motion in the action of Coleman & Co., Ltd. v. Stephen Smith & Co., Ltd., which was to prevent the defendants from selling a preparation which they named "Carvino" so as to lead the public to believe it was the plaintiffs' preparation of Wincarnis, got up in a bottle like the plaintiffs' preparation. The evidence disclosed a considerable amount of conflict, and it could not properly be tried on the motion. He asked, therefore, that the motion should stand over until the trial.—Mr. Walter, K.C., for the defendants, said he thought it would be better not to have any order on the motion at present, but to allow the motion to stand over until the trial of the action.—His Lordship accordingly directed the motion to stand over until the trial.

COOPER'S PRODUCTS IN INDIA.

In the Official Referee's Court, before Mr. Verey, on July 22, the hearing was continued of the action brought against Messrs. William Cooper & Nephews, Berkhamstead and Glasgow, by Messrs. H. S. Tosh & Co., export merchants and shippers, of Queen Victoria Street, E.C., for the recovery of damages under an agreement by which the plaintiffs were to be defendants' sole agents in India and Ceylon for the sale of their chemical products. Counsel had a long consultation concerning questions of figures. Subsequently Mr. Maughan, representing the plaintiffs, with Mr. E. Pollock, K.C., stated that as the result of consultation defendants had to be given credit for 11*l.* 19*s.*, and defendants, by way of compromise, threw in to plaintiffs 26*l.* 8*s.* 5*d.*, which left a round figure of 200*l.* due on the whole compound account from the plaintiffs to the defendants. Therefore, said counsel, there only remained the question of damages.

Mr. H. S. Tosh, senior partner in plaintiff firm, gave evidence from which it appeared that chemical compounds prepared for disinfection were dealt in by his firm on behalf of the defendants, and it was elicited that some of the preparations (V1 and V2) were in the experimental stage, but previous to the breach of the agreement he learnt that the fluids were being revised.

Sir Edwin Grant-Burle, C.S.I., for over twelve years Director-General of Stores at the India Office, also gave evidence, in the course of which he stated that there is an "immense and growing field" in India for disinfectants. Sir Edwin gave the figures relating to imports from Great Britain of disinfectants:

1906	£15,000	1907-8	£20,000
1906-7	18,000	1908-9	19,000

Sir Edwin was perfectly certain that if Messrs. Cooper's preparations were what they alleged them to be—superior to anything else—they would sweep India in the course of another year or so. Mr. Graham incidentally put it to Sir Edwin that other people's disinfectants were sold in the native bazaars at "ruinously cutting" prices, to which Sir Edwin replied: "I never bought disinfectants at a bazaar. But the stuff in the bazaars is not a disinfectant at all."—Mr. Graham asked Sir Edwin if he agreed that

except when they were pushed by governments and municipalities, natives would have nothing to do with disinfectants. Sir Edwin: "The Government and the municipalities are providing all these means to fight diseases."—Mr. Graham: "Therefore the supply of disinfectants is in the hands of the Government and the municipalities?" No answer was given to this by Sir Edwin. Mr. Tosh was further cross-examined by Mr. Graham, who sought to elicit that the prospects held out by the plaintiffs for the Indian trade were never realised, and could not have been.

The cross-examination of Mr. Tosh was continued on July 25, after which he was re-examined, and when the Court adjourned Mr. Norman Macbeth, of the firm of Messrs. Macbeth, London, Calcutta, and Bombay, was giving evidence.

In opening defendants' case on Tuesday, Mr. Alexander Graham said they were perfectly willing to pay to Mr. Tosh any damages to which he was fairly entitled. The judgment of Mr. Justice Neville, who had referred the proceedings to this Court, was in terms that it appeared to him that the tribunal, assessing these damages, would be entitled to take into consideration the whole of the provisions of the agreement, and, having regard to the obligations of the firm on one side and the tenure of the agency of the plaintiffs on the other, to come to a conclusion as to what might reasonably have been expected to be the profit—if any—which the plaintiffs would have derived from the fulfilment of the agreement. What Messrs. Cooper had done they had done openly and for what they had deemed to be good cause. They had made up their minds that they desired to break with Mr. Tosh, and at once they told him so openly, leaving him to his remedy for damages, if any. While counsel did not suggest there were any grounds to justify Messrs. Cooper in ending this agreement in law, he suggested that there might be many reasons—irrespective of law—why one or other of the parties might desire to terminate it. Regarding the statement of claim, the referee would see, Mr. Graham continued, that Mr. Tosh put forth in a modest way that there would have been sales amounting to 60,000*l.* odd by the continuation of his business relations with the defendants under these agreements. To arrive at those figures he divided the products of Messrs. Cooper into three classes—disinfectants and horticultural and veterinary preparations. Regarding the veterinary and the horticultural products, counsel suggested there was no evidence to lead the Referee to conclude that any substantial trade in these could have been done by Mr. Tosh. The chief of the veterinary preparations was Cooper's sheep-dip. He thought he would be able to show that, although that product was used in nearly every country of the globe, there were nevertheless in India peculiarities regarding the sheep trade which rendered it exceedingly unlikely that any volume of trade could be done there in the sheep-dip. Regarding the horticultural spray-fluids, counsel stated that it was part of Mr. Tosh's case that the action of these fluids would vary in different countries. Mr. Tosh, himself, was not in a position to say whether the alterations which had been made in V1 and V2 fluids would have the effect of making them more fit for the Indian trade. If, as counsel submitted, neither the veterinary nor the horticultural preparations were preparations which would have produced the financial results Mr. Tosh contended they would, then Mr. Tosh must have done it in disinfectants. But counsel argued that the conditions tended to show a decreasing trade in disinfectants in India, and that Mr. Tosh, to fulfil his anticipations, would have had to sweep away the other big disinfectant firms who had admittedly a firm hold in different parts of India. There had been in India well-known firms for many years past selling disinfectants and other things of this class; they were various well-known English firms who had a strong grip on the market; Newton, Chambers & Co., Ltd., Sheffield, had agents in Bombay, Madras, Rangoon, and Calcutta for Izal; the Jeyes' Co. manufactured, among other things, "Cyllin"; Pearsons their antiseptic called "Hycol"; and Little had "Phenyle," which had an enormous sale in India; and McDougall had a house in Bombay. Counsel suggested

it was absurd to say that people whose money, efforts, and time had been devoted to obtaining official recognition and to getting orders in India could be ousted in five minutes by Mr. Tosh. If he were the best business man in India, it would take him a long time to make any material progress against vested interests which had already so strong a grip on the Indian market.

Evidence for the defendants was then given by Mr. W. G. Butler, Director-General of Stores at the India Office, London, who had given Messrs. Cooper an order for "Lavine"; by Mr. A. C. Hargrove (Tulloch & Co.), 26 Fenchurch Avenue, E.C.; by Mr. Joseph Godber, commercial manager of the disinfectant department of Messrs. Newton, Chambers & Co.; by Mr. J. H. Pattinson, of Messrs. H. V. Low & Co., Leadenhall Street and Calcutta; by Dr. W. J. Simpson, of King's College; and by Mr. S. R. Timson, foreign manager to Messrs. Cooper & Nephews. The Court then adjourned. (See Coloured Supplement.)

EDGE'S LAUNDRY BLUE.

Before Lords Justices Fletcher Moulton and Buckley in the Court of Appeal on July 25, Wm. Nicolls & Sons, Ltd., of Darwen, appealed against an order granted by Mr. Justice Swinfen Eady in a pending action brought against them by Wm. Edge & Sons, Ltd., colour and dye manufacturers, of Bolton. The order complained of was an interim injunction restraining the appealing defendants from passing off laundry blues, not of the plaintiffs' make, as goods of the plaintiffs, by imitating the get-up of plaintiffs' goods, and from supplying to persons asking or ordering laundry blue, or tints, with a stick in it, any laundry blue not of the plaintiffs' manufacture, as or for the goods of the plaintiffs' manufacture.

Lord Justice Buckley suggested that the injunction must have been founded on evidence that laundry blue with a stick in it meant plaintiffs' goods.

Lord Justice Moulton: What is the point alleged to be an imitation of the plaintiffs' goods.

Mr. Grant, K.C.: The stick.

Lord Justice Fletcher Moulton: Nonsense. The article is blue with a stick in it. What is alleged against you?

Mr. Grant: I can only say: The stick.

Counsel argued that even if defendants had not the unqualified right of sale which they asserted, yet they had sufficiently distinguished their article from that of the plaintiffs by putting their own name on their article.

Mr. Buckmaster, K.C., for the respondent plaintiffs, said that for nineteen years plaintiffs had been in the habit of selling goods under this particular get-up.

Lord Justice Fletcher Moulton: Just assume that the article is blue in a bag with a stick fastened in at the mouth. Have you any get-up?

Mr. Buckmaster, while refusing to assent to the Lord Justice's description of the article, submitted that even under such circumstances he had a get-up. The get-up was the particular shape of the plaintiffs' article. Defendants' article might have been any other shape.

Lord Justice Fletcher Moulton: From the time the patent was set aside it was open to the public.

Mr. Buckmaster: At the time plaintiffs began to sell goods in a particular form anyone else could do the same, but that is not the question. The question is whether after nineteen years anyone can do so.

Lord Justice Buckley: The question is whether after nineteen years anyone can make the same article so as to produce a false impression.

Mr. Buckmaster said that if that were possible plaintiffs would have lost the benefit of the 100,000*l.* they spent in getting their article known.

Lord Justice Fletcher Moulton: Not 100,000*l.* or 1,000,000*l.* could prevent the British public from making any known article. The whole essence of the get-up is that it gives indicia of origin; and as you cannot keep anything useful from the public your indicia must be something capricious.

Mr. Buckmaster argued that the purposes for which indicia of origin were selected could not matter.

In the end Lord Justice Fletcher Moulton said this was a very important point which ought to be decided by three judges.

The hearing was accordingly adjourned.

Sale of Food and Drugs Acts.

VINEGAR.

At Kensington, on July 19, Dennis Martell, 2 Tottenham Street, North Kensington, was fined 1*l.*, and costs, for selling vinegar containing 32 per cent. of extraneous water. —At the same Court on the same day George Olsen, grocer, 9 Golborne Road, North Kensington, was fined 30*s.*, and costs, for selling vinegar containing 34 per cent. of added water.

SEIDLITZ POWDERS.

At Bishop's Stortford Petty Sessions, on July 20, before Admiral Vander Meulen (in the chair) and Messrs. E. B. Barnard, W. Holland, F. Flinn, and T. Burton, Henry Tricker, greengrocer, was summoned for selling certain Seidlitz powders which were found to be deficient in strength. The Inspector visited defendant's shop to inspect the weights, and while there saw a box of Seidlitz powders on the counter. He asked for twelve powders and paid 1*s.* for them. Four were sent to the County Analyst (Mr. A. E. Ekins), who returned a certificate stating that the powders were deficient in quality. This Mr. Ekins supported in evidence, and defendant was ordered to pay 6*s.* costs.

WHAT IS COCOA?

At the West London Police Court on July 22, Mr. Fordham concluded the hearing of the summons taken out by the Fulham Borough Council against Wm. Davies, grocer, Normand Road, Fulham, for selling cocoa which contained 60 per cent. of powdered shell (*C. & D.*, July 16, p. 73).—In his evidence Mr. Edmund Spur Thackeray, buyer for Cadbury Bros., stated that he considered that cocoa ought to be made from cocoa nib alone, that being the standard of all reputable firms. He believed that cocoa is universally understood to be shell-free ground cocoa bean.—Similar evidence was given by Mr. Theodore Rosenbein, Mark Lane.—Mr. Fordham found the charge proved, and imposed a fine of 40*s.*, with five guineas costs. He did not wish it to be understood that he laid down any standard for cocoa, but from the evidence submitted he concluded that the cocoa of commerce should not contain more than 7 per cent. of shell, that being the figure placed by the defendant's own witness, and therefore the present sample was undoubtedly a mixture of cocoa and shell.

Bankruptcy Reports.

Re George Pappa Michael, 11 St. Mary Axe, E.C., Sponge Merchant and Commission Agent.—The statutory first meeting of creditors under this failure was held on July 22 at Bankruptcy Buildings, Carey Street, London, W.C. Mr. G. W. Chapman, Official Receiver, presided. The debtor began business as a sponge merchant and commission agent in 1901 at St. Michael's House, Bishopsgate Street, E.C. A statement of affairs had been filed, showing liabilities 3,413*l.* 10*s.* 5*d.*, of which 2,379*l.* 15*s.* 8*d.* were returned as unsecured, and assets *nil*. The debtor submitted no offer. The case remained in the hands of the Official Receiver as trustee.

Re C. C. C. Wightman, 1 Fenchurch Avenue, E.C., lately a Partner in the firm of W. Caudery & Co., Merchants.—The first meeting of creditors was held at the London Bankruptcy Court on July 25. Mr. E. Leadam Hough, Senior Official Receiver, reported that it appeared from the directors' statements that for fifteen years before 1874 he was employed as a clerk by the late Mr. Wm. Caudery, who had established the business in 1847. Mr. Jane was admitted a partner in 1886; Mr. Caudery retired, or purported to retire, in 1894, and the business was continued by Messrs. Jane & Wightman until September 1909. Mr. Jane attributed the failure of the firm to the fact that many thousands of pounds had been lost or sunk in various businesses and ventures outside the scope of the firm's trading, and also to Mr. Wightman's excessive drawings. On the other hand, Mr. Wightman, while agreeing to some extent with the first reason advanced for the failure, repudiated the suggestion that his drawings had in any way contributed to the failure of the firm. The liabilities were returned by Mr. Jane as between 233,000*l.* and 234,000*l.*, and the assets at about 43,000*l.* Mr. Wightman had not filed a statement of affairs, but it appeared that the greater part of the firm's liabilities were contracted before he retired, and he was consequently liable for them, and he had

no separate assets of any substantial value. A resolution was unanimously passed for Mr. Fredk. J. Young, C.A. (Turquand, Youngs & Co.), 41 Coleman Street, E.C., to act as trustee and wind up the estate in bankruptcy, assisted by a committee of inspection.

Deed of Arrangement.

Palmer, John Main, Beechwood House, Beechwood Avenue, Plymouth, and **William Montagu Martin**, 13 Salisbury Terrace, Devonport, trading at Market Arcade, Plymouth, and 1 St. Aubyn Street, Devonport, as Martin & Palmer, Chemists, Druggists, and Wine and Spirit Merchants. Trustee, C. Comins, C.A., 50 Cannon Street, London, E.C. Dated July 14; filed July 20. Liabilities unsecured, 600%; estimated net assets, 100%. A list of creditors appeared in our issue of July 9 (p. 41).

Gazette.

Partnerships Dissolved.

BRANNIGAN, R. A., and **SAFFLEY, J.**, general medical practitioners, Liverpool, under the style of Drs. Brannigan & Saffley.

EWART, C., and **CUTLER, L.**, physicians, etc., Queen's Gate Terrace and Kensington Gate, London, S.W., under the style of Ewart & Cutler.

HAWKINS, A. E., and **DODS, L. F.**, Hove, physicians, under the style of Hawkins & Dods.

The Bankruptcy Acts, 1883 and 1890.

ADJUDICATION.

COBB, CHARLES PERCIVAL, lately carrying on business under the style or firm of Davies & Co., Hereford, gentleman, lately carrying on business as a mineral water manufacturer.

New Companies Registered.

The letters P.C. mean Private Company within the meaning of the Companies Act, 1907, and R.O., Registered Office.

ROBORAT CO., LTD. (P.C.).—Capital 2,500*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, drysalters, oil and colourmen, etc.; to acquire the Roborat Co. R.O., 8 Harp Lane, E.C.

LLOYDS' DRUG STORES, LTD. (P.C.).—Capital 500*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, etc. The first directors are H. S. Picton and G. M. Trevaskis. R.O., 121 High Street, Margate.

W. V. ALDRIDGE & SON, LTD. (P.C.).—Capital 10,000*l.*, in 1*l.* shares. Objects: To carry on the business of Italian warehouseman, chemist, druggist, etc., and to acquire the business carried on by W. Aldridge. W. Aldridge is permanent governing director. R.O., 7 Islington Green, Islington, N.

ASTLEY & CO., LTD..—Capital 6,000*l.*, in 1*l.* shares. Objects: To carry on the business of wholesale, retail, export, import, and shipping manufacturing chemists, manufacturers of and dealers in proprietary medicines and surgical appliances, etc., and to adopt an agreement with D. Powles and Christine M. Chataway.

PARK CHEMICAL CO., LTD. (P.C.).—Capital 3,000*l.*, in 1*l.* shares (1,000 pref.). Objects: To take over the business of the Park Chemical Co., Trafford Park, Manchester. The first directors are J. T. Hall, T. Norcliffe, jun., J. Chadwick, and F. W. Bignell. R.O., Westinghouse Road, Trafford Park, Manchester.

CARR, EVANS & CO., LTD. (P.C.).—Capital 600*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, drysalters, oil and colourmen, teeth extractors, etc. The first subscribers are Mrs. E. Evans, Normanton, innkeeper, and W. Furber, sen., Normanton, pharmaceutical chemist. R.O., 21 High Street, Normanton.

UNINFLAMMABLE FILM AND CELLULOID SYNDICATE, LTD. (P.C.).—Capital 6,300*l.*, in 6,000 preferred ordinary shares of 1*l.* each and 6,000 deferred shares of 1*s.* each. Objects: To carry on the business indicated by the title. The first subscribers are A. H. Atkins, 27-8 Fetter Lane, E.C., and C. M. Caplen, 30 Charnock Road, Clapton, N.

ALFRED FAIRCLOUGH, LTD. (P.C.).—Capital 1,000*l.*, in 1*l.* shares. Objects: To carry on the business of chemical-manure

manufacturers and merchants, bone-crushers, glue and grease manufacturers, soap and candle makers, chemists, druggists, drysalters, etc. The first subscribers are A. S. Taylor, 18 Billiter Street, E.C., and A. G. Fairclough, 90 Hawksley Avenue, Hillsboro', Sheffield. R.O., Dronfield, Derbyshire.

SHIRTLIFF, SMITH & CO., LTD. (P.C.).—Capital 3,000*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, manufacturers and importers of pharmaceutical and other preparations, etc., and to adopt an agreement with W. E. D. Shircliffe and E. W. Smith. The first directors are W. E. D. Shircliffe (Chairman), J. A. A. Atkin, and E. W. Smith. R.O., 2 Elmwood Gardens, Acton Hill, Acton, W.

Company News.

SPRATT'S PATENT, LTD..—The directors have declared an interim dividend of 4*s.* per share, less income-tax.

STANDARD TABLET AND PILL CO., LTD..—The directors inform us that owing to the recent issue of shares having been very much over-subscribed, they were unable, in many instances, to allot the total number of shares applied for, their desire being to distribute the shares as widely as possible among their customers. Letters of allotment and regret have been posted.

APOLLINARIS & JOHANNIS, LTD..—At the thirteenth annual general meeting, held at the Holborn Restaurant, High Holborn, London, W.C., on July 21, the Chairman (the Earl of Bessborough), in moving the adoption of the report, said the trading of the past year had shown a remarkable recovery in the sales of Apollinaris water, and, in reply to questions, said that the great cause of the fall in the company's profits was the increase in the price of bottles. The report (*C. & D.*, July 16, p. 41) was adopted unanimously.

GEORGE TOWN DISPENSARY, LTD., PENANG..—The postponed annual general meeting of shareholders was held at Penang on June 21. Dr. T. C. Avetoom, managing director, presided. The net profit for the year ended February 28, 1910, is \$12,516, and this amount with the balance carried forward from last year (\$356) makes a total of \$12,873 at the credit of profit and loss account. Out of this latter sum the payment of a dividend of 15 per cent. is recommended, which will absorb \$9,300, and to the employees one month's salary (equal to \$1,078), and the transfer of the sum of \$1,500 to the reserve fund, leaving a balance of \$495 to be carried forward. In addition to the above transfer of \$1,500 to reserve account, \$519 has been written off fittings account; \$814 on account of bad and doubtful debts, Penang and Ipoh; and a further sum of \$500 has also been reserved against bad and doubtful debts. The report and accounts were adopted.

Births.

HASLETT.—At Fairholme, Adelaide Park, Belfast, on July 18, the wife of H. R. Haslett (Messrs. J. & J. Haslett, Ltd., chemists and druggists, North Street), of a daughter.

LITTLE.—At Salisbury, Rhodesia, on June 27, the wife of T. A. Little, chemist and druggist, of a daughter.

SOMERVILLE.—At 9 Hope Park Terrace, Edinburgh, on July 21, the wife of George Somerville, chemist and druggist, of a son.

Marriages.

CAMERON—MEINTJES.—At St. Andrew's Church, Bedford, Cape Colony, on June 22, William A. J. Cameron, Secretary, Transvaal Medical Council and Pharmacy Board, eldest son of Mr. and Mrs. Cameron, Edinburgh, to Augusta Cecilia Beatrice, youngest daughter of the late Dr. S. J. Meintjes, M.D., and Mrs. Meintjes.

HEDDLE—OGG.—At White Hart Hotel, Arbroath, on July 20, by the Rev. G. Hitchcock, B.D., Inverbrothock, and the Rev. Andrew Halden, Inverkeilor, James B. S. Heddle, chemist and druggist, Edinburgh, to Louisa Simpson, youngest daughter of Mr. William S. Ogg, Arbroath.

STOOKE—BERRETT.—At the Parish Church, Orford, Suffolk, on July 13, by the Rev. W. H. E. D. Jarvis, Vicar, Frederick Arthur Stooke, Ph.C., eldest son of Mr. Arthur Stooke, Gillingham, Kent, to Marion Braddock Berrett, eldest daughter of Mr. and Mrs. T. H. Berrett, Orford, Suffolk.

Deaths.

DEVEREUX.—On July 11, Mr. Arthur James Devereux, chemist and druggist, Tottenham, formerly of Penn, Bucks, aged sixty-eight.

HOWE.—At Eynsham, Oxford, on July 25, Mr. Henry Albert Howe, chemist and druggist, aged sixty-five.

MONTGOMERY.—At the Medical Hall, Callan, Kilkenny, on June 20, Eily, wife of Mr. Hugh Montgomery, Ph.C.

READE.—On July 18, Mr. Joseph Reade, wholesale chemist, Oak Street, Crewe, aged sixty.

TIMMIS.—On July 25, at Cleveley, Allerton, Liverpool, Mr. Thomas Sutton Timmis, aged eighty. Mr. Timmis was an original member of the Society of Chemical Industry. He was born at Nantwich on July 23, 1830, and was apprenticed in a Manchester warehouse. About 1855 he joined his brother-in-law in a soap-making business in Liverpool, and ten years later joined W. Gossage & Sons, Ltd., Liverpool and Widnes, soap and chemical manufacturers. He was a man of wide philanthropy, and gave liberally to the borough of Widnes for educational and other purposes, while he and Mr. F. Gossage endowed with 7,000*l.* a quantitative laboratory at Liverpool University as a memorial to the late Mr. William Gossage. In 1903 Mr. Timmis gave 10,000*l.* for cancer research at the University.

Personalities.

Notes for this section must not be in the nature of advertisements, and they should be authenticated when sent to the Editor.

MR. EDMUND WHITE, B.Sc., Ph.C., who was an Honorary Secretary of the British Pharmaceutical Conference from 1903 to 1909, was at Cambridge on Thursday, July 28, presented by the President of the Conference (on behalf of over 250 subscribers) with a silver rose-bowl and a fine jewelled ring for Mrs. White. The ring represented two-thirds of the value of the testimonial, and this may be said to measure the estimation of Mrs. White's social services



MR. AND MRS. EDMUND WHITE.

at Conference meetings without reflecting upon her husband's value to the scientific proceedings of the Conference. Mr. White is a distinguished *alumnus* of the School of Pharmacy, and succeeded Mr. Sydney Plowman as Pharmacist of St. Thomas's Hospital, a position which he

held until he accepted the management of Messrs. Hopkin & Williams' business. The photograph is from a snapshot by Mr. Jno. Cleworth.

MR. S. S. HEWITT, of Bloemfontein, O.R.C., called at the *C. & D.* Office on Monday, and was looking well after his voyage home.

ALDERMAN MAINPRIZE, J.P., chemist and druggist, Bridlington, has been appointed a member of the General Committee of the Lloyd Hospital, Bridlington.

MR. DAVID H. OXEN, managing director of Oxens, Ltd., Newcastle, Staffs, was at the recent Prov. Grand Chapter of Royal Arch Freemasons of Staffordshire, held at Rugeley, appointed Prov. Grand Sword Bearer.

MISS MAUD WELLS, daughter of Mr. W. F. Wells, Ph.C., Dublin, has been awarded by the Royal Academy of Music the bronze medal for violin-playing. Miss Wells last year distinguished herself in the pianoforte at the Academy.

MR. T. DONALD WATSON, F.C.S., who for twenty-one years has been Chairman of the Executive Committee of the North Kensington Conservative Association, was last week presented by the members with a silver tea-tray, salver, and other plate on the occasion of his retirement from the position, owing to impaired health.

MR. EDMUND WHITE has by mutual consent ceased to be a partner in the firm of Alfred White & Sons, manufacturing chemists, Allen Street, Goswell Road, London, E.C., and West Drayton, Middlesex. It is not Mr. White's intention to relinquish business entirely, and his face will still be seen on 'Change, where his knowledge of the chemical trade and of chemical engineering is appreciated.

MR. WILLIAM FREDERICK WELLS, Ph.C., of Dublin, who has this week been elected President of the British Pharmaceutical Conference, is the first Irishman upon whom this honour has been conferred. Mr. J. C. C. Payne, of Belfast, who was President in 1899, is an Englishman. Five-and-

twenty years ago it was said of Mr. Wells in the *C. & D.*: "He is pretty well known in England, having been a frequent visitor to the meetings of the British Pharmaceutical Conference." He has been doing that ever since, and has held office in the Conference as Vice-President and a member of

the Executive. Mr. Wells has been a dominating personality in Irish pharmacy for about thirty years. He passed the Licence examination in October 1877, and commenced in business on his own account in 1882. His pharmacy at 22 Upper Baggot Street, Dublin, is one of those practical businesslike places where a pharmacist can carry out his ideals and the public get what they want. Mr. Wells entered the Council of the Pharmaceutical Society of Ireland in 1882, and became Vice-President nine years later. In 1895 he was elected President, and held that office until 1897; he was again elected in 1904 and served for a year. Mr. Wells is acknowledged to be the best-informed man in Ireland regarding pharmacy law, and has a remarkable knowledge of precedents in pharmaceutical affairs. His services to Irish pharmacy were recognised in 1898 by the presentation to him of a solid silver bowl with a list of the subscribers, this being the second occasion on which he received a testimonial from Irish pharmacists; the first was in 1890, when he received an address as a memento of the part which he had played for the Society when the Amendment Act of 1889 was going through Parliament. He is a Mason, an Urban District Councillor, and a fine singer.



MR. W. F. WELLS.

SUMMER ISSUE INSETS

CIRCULARS & PRICE LISTS

IF the publisher of the *C. & D.* were like a noted American *impresario*, we should have to say here, on his behalf, that he has "the honour to present" to readers of *THE CHEMIST AND DRUGGIST* as artistic, interesting, and valuable a collection of insets as has been brought together in a drug-trade journal. The honour is there, nevertheless, and it is a tribute to the business abilities and foresight of subscribers to *THE CHEMIST AND DRUGGIST* that so many manufacturers and wholesalers address them by advertisement and inset in this Summer Issue on matters of business. By "insets" we refer to those circulars, price-lists, and the like which are inserted with this number. These are designed and printed by the firms themselves, and it is a compliment to our readers that the firms should take the trouble to appeal to them for business in this exceptional manner. We commend careful examination of them, and early communication with the houses represented in regard to those business details which are reserved for correspondence and inquiry; further, that this Summer Issue should be filed by buyers, so that they may refer to it as occasion requires.

Insets are only accepted for distribution in *THE CHEMIST AND DRUGGIST* twice a year, and the next occasion will be the Winter Issue, to be published on January 28, 1911. In view of the fact that the present year's trade of Great Britain and Ireland is already ahead of the record, and promises on the whole year to be far better than the record returns of 1907, the year 1911 is expected by specialists in commercial and financial diagnosis to be phenomenal in volume of trade. This means that the people will have money to spend, and the drug-stores and pharmacies of the British Empire should help to gather some of it in. They are buyers as well as sellers, and they have proved themselves to be good buyers of articles which are attractively set before them in the *C. & D.* The publisher suggests consideration by all manufacturers and wholesalers of the desirability of placing an inset in the Winter Issue. An inquiry addressed to him at 42 Cannon Street, London, E.C., will secure all the information requisite for the guidance of printers, and he is willing to advise, if required, as to designing and the drafting of insets.

The following are brief summaries of the subjects dealt with in the series of insets in the present issue. The folios attached to the paragraphs indicate the sections of the issue in which the circulars and price-lists are inserted:

Allen & Hanburys, Ltd.,

insert in each copy a beautifully printed, illustrated price-list of packed drugs and household remedies, malt extract and its compounds, toilet-preparations, toilet soaps, and cod-liver oil and its preparations. The list is from the company's own printing press, and its artistic finish gives emphasis to their maxim: "A distinct style of label can be reserved for every pharmacist in each locality." Messrs. Allen & Hanburys make a point of supplying their customers with pharmaceutical products of the quality so requisite for the credit of the pharmacist, at moderate prices, and turn them out in first-class style, as the present list testifies.

Baiss Bros. & Stevenson, Ltd.,

devote their inset to their special products, which include cod-liver oil emulsion, Krysyl and Pinesyl disinfectants, coca miscible extract, "Othniel" brand zinc oxide, and copaiba balsam. The Company also specialise in the requirements of aerated-water makers (fruit-essences, sulphuric acid, etc.) and ice-makers (ether, ammonia, etc.). A reproduction of the gold medal awarded to them at the Rio de Janeiro Exhibition appears on the front page of the circular. The business address is now 174-6 Grange Road, Bermondsey, London. (Pp. 32-33.)

Beck & Inchbold, Ltd.,

are designers and printers for business houses. Catalogues, circulars, labels, posters, and showcards are among their specialities, and their inset is an example of that simplicity in production which makes for effectiveness in advertising. They invite requests for ideas and estimates. Such requests may be addressed to them at Basinghall Street, Leeds, or Henrietta Street, London, W.C. (Pp. 134-135.)

Bowers Bros.

are still on the bridge. Chemists will remember their characteristic use of the coconut as a mark of their printed productions. Their four-page circular in this issue is a fresh proof of their modernity. It includes a pertinent article entitled "Still on the Bridge," the moral of which is: "Bowers Bros. know what good printing is, and produce it." They invite all to drop a line to "the home of notions," 89 Blackfriars Road, London, S.E., and graphically but metaphorically depict what they can do to make the business ship forge ahead. (Pp. 64-65.)

Brunner, Mond & Co., Ltd.

Elsewhere in this issue we refer to the fine exhibit of ammonia-soda products by this Company in the Brussels Exhibition. In the process as worked out to technical perfection by the late Dr. Ludwig Mond, F.R.S., the first stage in the decomposition of common salt results in the formation of sodium bicarbonate. In the Leblanc method bicarbonate is reached only at the end of a complicated and expensive process. The Brunner-Mond (Crescent Brand) bicarbonate is produced at the minimum of cost, and without impurities, hence it is so cheap that it is cheaper than chalk in use for the production of CO_2 in aerated water making. Besides, chalk contains less than half its weight of CO_2 , the Crescent brand bicarbonate contains more than two-thirds. In the B. M. & Co. inset, between pp. 134 and 135, instructions are given for using the bicarbonate. Inquiries should be addressed to the Company at Northwich, Cheshire.

W. J. Bush & Co., Ltd.,

on this occasion devote their circular exclusively to fruit essences, soluble essence of lemon, and oil of lemon, the last being produced in their works at Messina, Sicily. The Company are pioneers in this branch of industry, and keep pace with scientific and technical advances, either in respect to old favourites or new claimants for popular favour. Their headquarters are at Ash Grove, Hackney, London, N.E. (Pp. 32-33.)

Butler & Tanner

are able to place a sample of their goods before our readers at home and abroad. By "goods," we mean specimens of their artistic printing; and in order that all branches of the chemical and drug trades and allied businesses may see more of their work, the bottom corner of their inset is a tear-off postcard, which should be filled up and posted to the firm, whose headquarters are Selwood Printing Works, Frome. (Pp. 166-167.)

F. C. Calvert & Co.

have an attractive picture postcard, printed in numerous colours, for extending knowledge of the cleansing, refreshing, and antiseptic properties of Calvert's Toilet Soap. A specimen of this is placed on their inset, which is also devoted to illustrations and quotations of their carbolic tooth-powder and other dentifrices, as well as

Calvert's carbolic disinfectants. The firm's business headquarters are Manchester, England, and on their inset their other addresses are mentioned, from any of which inquiries will be answered. (Pp. 32-33.)

Arthur H. Cox & Co., Ltd.,

of Brighton, insert a 16-page price-list of pills and tablets, which are their principal branches of manufacture, the list comprising formulæ with prices, in the case of tablets, of 25, 50, and 100 in bottles, and bulk quantities of 1,000. The pills are quoted in 10, 50, and 100 gross lots. The list contains besides illustrations of tablet bottles and the packages of some special lines, such as Cold Cure Tablets, Little Liver Pills and other packed pills, and suppositories. The company are the originators of "Massolettes" and certain other soured-milk specialities, all of which are described and illustrated in the price-list, which is inserted loose.

Duckworth & Co.,

give us a circular such as we have never had before. It is devoted to some notes upon Duckworth's "Crystal Spring" Soda-Water Salts, which make soda-water "fit for the King" in crispness and palate pleasure. The firm place on the front of the inset a life-like portrait of King George the Fifth, which, no doubt, many of our readers will frame; but before doing so we would suggest that they should write to the firm at the Old Trafford Essence Distillery, Manchester, for further particulars regarding the Soda-Water Salts and other materials for aerated beverages. (Pp. 32-33.)

Eueryl, Ltd.,

once more offer our readers a special bonus for counter displays of Eueryl Tooth-Powder, and part of their inset is an order form for the tooth-powder, with showcards, sample tins, and window-slips in proportion to the offer made. The company give a dozen free tins with all opening orders of three dozen 6d. tins of the dentifrice, which is protected by the P.A.T.A., and yields 100 per cent. profit. Eueryl, Ltd., Hull, is the address. (Pp. 64-65.)

Fickus, Courtenay & Co., Ltd.,

are agents for the well-known No. 4 Eau de Cologne, to which their inset is solely devoted, the front page showing an oval of reproductions of the medals which have been awarded at the world's great exhibitions to the "No. 4," and a faithful facsimile of the 4-oz. glass bottle is given on the back page. The company are sole agents for England and Wales, and their new address is 36 Sackville Street, Piccadilly, London, W., to which inquiries should be addressed. (Pp. 134-135.)

Fletcher, Fletcher & Co., Ltd.,

have the distinction of illustrating their brochure regarding their new "Vibrona" Laboratories with a facsimile of the original drawing, which is now on exhibition in the Royal Academy. The new buildings were recently opened, and descriptions of their general character have been published in the *C. & D.* The series of photographs in the brochure of the offices and laboratories, taken during a working day, are a revelation of the finished equipment provided for the production of concentrated liquors, hydrobromates, "Vibrona," and other high-class pharmaceutical products which are associated with the name of Mr. Fred. W. Fletcher, a portrait of whom is given on the inside cover of the inset (inserted loose).

Wm. Gardner & Sons (Gloucester), Ltd.,

have sent us for insertion an illustrated price-list of nearly two score of their sifting and mixing machines, which are adapted for most of the dry powders treated by retail and manufacturing chemists, and it is notable that the machines are made in sizes suitable for small quantities, as well as for those who compound by hundredweights. Besides these machines, the other apparatus manufactured by the company is illustrated, this including stone mills, hoists, and machines for dressing emery powder, chemicals, seeds, and the like. The principles of the "Rapid" mixers and sifters are given on the last page. (Pp. 166-167.)

Holden & Co.,

describe the properties of "Crembas," the Complexion Cream Creator, and give a reprint of an article entitled, "Vanishing and Other Creams," which was published in the *C. & D.* of April 23, wherein the properties of this remarkable product are described and half a dozen formulæ given for the preparation of skin creams and lotions. It appears from the inset that a sample of "Crembas" can be obtained, carriage paid, for 2s. 6d. on application to the agents, Messrs. Peter Möller, Ltd., 18 High Holborn, London, W.C.; or at 75 cents from Messrs. Holden & Co., Dufferin Square, Montreal, Canada. This half-crown's worth makes preparations to the retail value of 2l. 3s. 6d. (Pp. 32-33.)

The Ichthyol Company,

CORDES HERMANI & Co., give facsimiles of original tins of ichthyol, and the labels used for the ammonium and the sodium sulpho preparations. Some notes regarding the uses of ichthyol and formulæ for its administration in tuberculosis are appended. The Company's headquarters are at Hamburg. (Pp. 134-135.)

L. Lumley & Co., Ltd.,

devote their inset to a description of the Dan patent Crown Cork, which is the most perfect bottle closure yet produced for aerated waters and other gaseous liquids. The Dan Crown Cork is made of aluminium and cork, so that there can be no rust contamination. To open a bottle all one has to do is to tear off a metal tab, and this is easily effected by the finger and thumb without any extraneous instrument. In regard to the method of affixing, it is simple and expeditious, and application should be made by bottlers to the advertisers, 1 America Square, London, E.C., for particulars. (Pp. 134-135.)

McKesson & Robbins

set forth in a 4-page list the formulæ of a series of capsuled pills manufactured by them, for which Messrs. S. Maw, Son & Sons, Aldersgate Street, London, E.C., are the London agents. Besides the pills quoted, Messrs. McKesson & Robbins prepare capsuled pills according to the formulæ of the British Pharmacopœia and other standard authorities. They are also manufacturers of "Calox," the oxygen tooth-powder, which has made such satisfactory headway in this country as an antiseptic and purifying dentifrice. The British depôt for "Calox" is now at Messrs. G. B. Kent & Co., Ltd., 75 Farringdon Road, London, E.C. The principals, Messrs. McKesson & Robbins, themselves are at 91 Fulton Street, New York, U.S.A. (Pp. 64-65.)

The Mawson Filter Co.

issue particulars of the Mawson filters. The inset deals with the tourist filter and the household filters, both varieties being in great demand at this time of the year. The tourist filter, a most useful companion for travellers and motorists, represents the latest ideas in this kind of filter, and ensures safe drinking-water where the supply is open to suspicion. The Company may be addressed Newcastle-on-Tyne. (Pp. 64-65.)

Maxsol, Ltd.,

are the manufacturers of a non-carbolic, antiseptic, germicide and disinfectant preparation, which is soluble without turbidity in any proportion of water, hot or cold, and their circular sets forth concise directions for its use in surgery, for general disinfection, and as a mouth-wash. Descriptive literature in regard to the preparation and prices can be obtained on application to the company at Garratt Green, Tooting, London, S.W.; or 54 Cheapside, London, E.C. The inset is placed in the home copies only. (Pp. 166-167.)

Newball & Mason,

besides being the manufacturers of that concentration of one of the world's delights, "Mason's Extract of Herbs," publish a periodical entitled, "The Business Motor," which gives retailers "ideas," "hints," and "helps" for bettering business. Copies of this are offered in the circular, a double-page of which is devoted to a bird's-eye view of Messrs. Newball & Mason's Factory in Nottingham. (Pp. 64-65.)

The Nuvite Co., Ltd.,

attach to their inset a copy of a booklet regarding "Nuvité," the great Wine Food, further copies of which they would supply to our readers, who will find the inset between pp. 64 and 65.

A. & F. Pears, Ltd.,

quote the following prices in their inset:—Pears' Soap, 6d. size, unscented, 4s. per dozen; 1s. size, all shapes, washing or shaving, 8s. per dozen; 1s. 6d. size ditto, 12s. per dozen; and the 2s. 6d. size (perfumed with otto of rose), 20s. per dozen. Transparent Glycerine Soap, 2s. for a box of three tablets, 16s. per dozen boxes. These prices are subject to 20 per cent. discount on all orders of not less than 5l. worth, if accompanied by remittance; and retailers will observe that they are by this means placed on an equal footing with the largest buyer in the United Kingdom, as the company do not give a larger discount to anyone. A complete price-list of the Pears manufactures, and a supply of showcards or other advertising material, may be obtained on application to any of the firm's depôts, namely: London, 71-75 New Oxford Street; New York, 365 and 367 Canal Street; Chicago, 232 and 234 Randolph Street; and Melbourne, 495-497 Bourke Street. (Pp. 32-33.)

Stephen Pettifer & Sons

call the attention of veterinary chemists to their veterinary specialities in an attractive inset. These are Santovin, a drench for sheep; Santoform, an anti-

septic healing powder for general use for animals; and Walton's (late of Croydon) poultry and dog remedies. These are all good sellers, and the firm encourage sales by supplying counter literature and showcards. It is interesting to recall the fact that the principal of the firm, Mr. T. Valentine Pettifer, F.R.C.V.S., is a descendant of James Petiver, F.R.S., botanist and physician, after whom the natural order *Petiveraceae* is named. The business is carried on at Malmesbury, Wilts. (Pp. 166-167.)

The Rhel-Ahma Manufacturing Co.

insert a facsimile print of the fine showcard for "Ivalin," the new brilliantine, which is described elsewhere in this issue. Copies of the mounted card can be obtained by writing to the company at 68 Aldersgate Street, London, E.C. (Pp. 32-33.)

The Sanitas Co., Ltd.,

deal with the question of the relative values of disinfectants in a four-page inset. Pharmacists who are naturally keenly interested in this question, should make a point of reading this statement, which deals with the matter in a convincing manner, and ends with tables of bacteriological tests of Sanitas-Okol and Sanitas-Bactox. The address is Locksley Street, Limehouse, London, E. (Pp. 134-135.)

Schweppes, Ltd.,

whose aerated-water products are so well known all the world over, have recently produced a series of cordials and non-alcoholic wines which can be taken by themselves or be used to flavour aerated or plain water. There is a mark of distinction about these, both in regard to the quality and to the dainty bottles in which they are put up. The company's inset is a specimen of the circular which they supply to retailers for distribution to customers, and our readers are invited to write to 64 Hammersmith Road, London, W., for further particulars. (Pp. 64-65.)

Stevenson & Howell, Ltd.,

Standard Works, Southwark Street, London, S.E., who are always endeavouring to surpass previous efforts, have this season chosen for the subject of their inset a finely produced spray of lemon blossom and fruit. This pushes home the lesson that "Stevenson & Howell's perfect soluble essence of lemons makes perfect lemonade." The soluble essence of stone ginger-beer referred to on the other side of the inset is also of special excellence. (Pp. 64-65.)

H. Stoddart & Co.

introduce to *C. & D.* home readers, Zingit, the Imperial Persian Nerve Tonic, regarding which some remarkable testimonials are given in the inset. Zingit is a pick-me-up which retails at 8s. 6d. per bottle, and the proprietors (20 Suffolk Street, Pall Mall, London, S.W.) are desirous of appointing agents. (Pp. 134-135.)

Viscose Development Co., Ltd.,

give full particulars of the Viscose bottle-caps. These were first introduced five years ago, and are now used by pharmacists and perfumers in enormous quantities. Readers should note the directions for ordering, and also that a booklet with fuller particulars of these interesting bottle caps can be had on application to 11 Queen Victoria Street, London, E.C. (Pp. 166-167)

Wright, Layman & Umney, Ltd.,

keep Wright's Coal-Tar Soap at the top—or, rather, the quaint little customer who is taking his bath on the front page of their inset is doing that. The circular gives details of the profitable business done by retailing Wright's Coal-Tar Soap. A gross, costing 5l. 15s. 6d. net, carries with it two dozen boxes free, and the whole retails at eight guineas, or 46 per cent. on the outlay. An illustration is given of the remarkable window display of the soap by Messrs. Neve & Co., of Hastings. Then follow illustrations of showcards, which can be obtained on application, and various other advertising matter is illustrated on the opposite page. The inset otherwise is devoted to the rest of the *Liq. Carbonis Detergens* specialties which are made by the firm, who invite further inquiries to their address, 48 Southwark Street, London, S.E. (Pp. 32-33.)

Trade Notes.

MORE ERASMIC PRIZES.—Owing to the high merit of the displays in the Erasmic Soap Window Competition, the Erasmic Co., Ltd., Warrington, have given ten additional prizes of 2l. each.

MESSRS. FELTON & CREPIN, essential-oil importers, 5 Savage Gardens, Tower, London, E.C., have been appointed sole agents for the British Isles and the Colonies for the artificial essences and synthetic perfumes of Mr. Otto Daniel, Gr. Reichenstrasse 14, Hamburg.

BOTTLES.—Buyers of bottles in large quantities should consult the advertisement of Messrs. T. Ferry & Son, Park Lane Glass Works, Gateshead-on-Tyne, who are actual makers, and will be pleased to submit prices for wholesale lots of bottles for dispensing or packing purposes.

LACTO-BACILLINE MILK.—The soured milk prepared by the London Pure Milk Association, Ltd., Halkin Place, London, S.W., is made under special licence with the authority of the originator of the treatment, Professor Metchnikoff. Chemists can obtain terms upon application.

"FAMILY" CLINICAL THERMOMETER.—Mr. G. H. Zeal, of 82 Turnmill Street, London, E.C., has introduced a new clinical thermometer having, in addition to the ordinary temperatures (95° to 110°), the wording engraved on it, "Too low" at 96°, "Healthy temperature" between 98° and 99°, "Feverish" at 101°, and "High" at 104°. These directions will be useful to parents who, happily for them, are not too familiar with the ranges of temperature which indicate the normal and abnormal. The thermometer has an extra broad index and flat sides to prevent rolling.

ZODIAC ELECTRIC MASSAGE MACHINE.—This seems to be the last word on electro-therapeutic appliances, being compact in size, simple in action, of great durability, and giving a good flow of electricity. Tungsten steel, which never wears out and retains its magnetism better than any other form of steel, is used in the construction of the machine, further particulars of which can be obtained by consulting the advertisement columns of this issue or direct from the sole manufacturers, Messrs. Thomson & Capper, 51 Piccadilly, Manchester. The retail price is 12s. 6d.

MESSRS. G. B. KENT & SONS, LTD., 75, Farringdon Road, London, E.C., have published their price-list, extending to 116 pages, in the form of sheets, which are kept together in the Stoltzenberg file system, so that a sheet may be replaced if the Company issue at any time revised prices. The list sent to us embraces chiefly toilet brushes (hair, tooth, etc.), mirrors, powder boxes, manicure cases, toilet cases, combs, wash-gloves, and many other toilet requisites. It is a good list, splendidly illustrated, and useful. Any *C. & D.* reader can get a copy of it on application to the company at the above address.

THE "EXTRA PHARMACOPŒIA."—The fourteenth edition of this popular *vade mecum* for physicians and pharmacists was reviewed in our issue of July 16. It has now been published, and in its new form we must say that we like it better than the old. Copies can now be obtained from Mr. H. K. Lewis, 136 Gower Street, London, W.C., at 12s. net. Dr. H. Martindale has also in the press a new "Organic Analysis Chart," dealing with methods of identifying over 300 organic bodies (alkaloids, glucosides, synthetics, etc.). It is to be published at 3s. 6d. by Mr. Lewis.

"ZINGIT," the imperial Persian pick-me-up, which is described in a circular in this issue, enjoys great popularity among travellers and other gentlemen who have to meet unusual calls upon their physical resources. It is taken with soda-water, Apollinaris, or similar beverage, and there is no question that it is an excellent tonic, and better than alcohol as a stimulus in depression and fatigue. "Zingit" retails at 8s. 6d. per bottle, and the makers, Messrs. H. Stoddart & Co., 20 Suffolk Street, Pall Mall, London, S.W., advertise that it can be obtained from chemists.

RUBBER SPONGES.—In spite of the high price of india-rubber, Mr. H. A. Wanklyn, 17, Manchester Avenue, London, E.C., still succeeds in giving good value in the "Velvey" brand to retail at 6d. and 1s. each, costing the retailer 4s. and 8s. a doz. They are flat, the smaller size being 3 in. in diameter and the latter 4½ in. The quality is good, and the sponges can, we find, be used with soap without fear of deterioration or their getting slimy. Mr. Wanklyn has a stock of "Velua" rubber erasers which are worth the attention of chemists who do in stationery. They are in various sizes and cheap.

ZEPTO.—Messrs. Thomas Christy & Co., Old Swan Lane, Upper Thames Street, London, E.C., continue to keep this indispensable aid to the dental toilet before the public in an attractive manner. The latest form of advertise-

ment is a series of "Magic Cards" upon which the tale of Dolly and her Teddy Bear is told in pictures that are revealed when the surface of the card is rubbed with a black lead pencil. Then it is seen that Dolly makes Mr. Teddy Bear's teeth white with "Zepto." Particulars as to the conditions upon which chemists may get a supply of these cards for distribution to their customers are, we understand, given in our advertisement pages this week.

"ALLIANCE" PRICE-LIST.—The detailed price-list of drugs and chemicals for July issued by the Alliance Drug and Chemical Co., 34 Leadenhall Street, London, E.C., is now ready. The catalogue provides a full list of quotations for galenicals, drugs, and chemicals at cash rates for small and large quantities, and also prices for spirituous preparations exported in bond. Clients who have not received a copy should send a business card to the above address.

ALUMINIUM DENTAL PLATE.—Our dental contributor writes as follows, regarding an aluminium denture ("Nilex-con") made by Mr. W. H. Bowling, 44 Dimond Street, Pembroke Dock:

"The plate has much to recommend it, especially as regards lightness, thinness, and strength. The teeth are fixed on with vulcanite, undercuts being made all round the two sides of the alveolar ridge for the attachment of the vulcanite. Patients have worn these plates for more than twelve months, and there has been as yet no signs of deterioration. This is a comparatively short time in which to judge the qualities of any new material for the mouth, but, on the other hand, Mr. Bowling is to be congratulated on the circumstance that up to the present no defects have appeared."

"PERFUME ABSOLUTE" is the title which Messrs. W. J. Bush & Co., Ltd., Ash Grove, Hackney, London, N.E., have given to a new series of floral essences without alcohol, comprising violet, rose, lily, carnation, jasmine,



and heliotrope. "One drop equals a bouquet of flowers," says an attractive showcard that the firm are issuing with the perfumes. The bottles are fitted with rod stoppers and are enclosed in pretty boxes, the price being 16s. per doz. Messrs. Bush have prepared for "Fleur de Rêve" (their latest perfume) a new showcard (here illustrated). It is a very delicate production, the figure and words being in relief. Copies can be obtained.

MESSRS. OLDFIELD, PATTINSON & Co., New Bridge Street, Manchester, have issued a new list of patent medicines, proprietary articles, druggists' sundries, etc. It is an octavo, of 184 pages, printed on lemon-tinted paper. The first thirty-four pages deal chiefly with the firm's specialties, including toilet preparations, effervescent, dairy preparations, and household requisites, which are well illus-

trated. Then follow 105 pages devoted to proprietary articles, showing the retail and wholesale prices, as well as the minimum retail prices where they are fixed. To these are added lists of mineral waters, druggists' sundries, and photographic goods. A copy can be obtained by any chemist from Messrs. Oldfield, Pattinson & Co.

TO MAKE SOURED MILK of the Bulgarian type in a few seconds is what "Klim" does. "Klim" is a water-white acid liquid, a single teaspoonful of which added to a tumblerful of fresh milk turns it immediately into a fine curdled and tart beverage, which cannot be distinguished from naturally soured milk, except that it is destitute of the rancid flavour sometimes noticed. Apparently the makers (for whom the British Drug Houses, Ltd., 22-30 Graham Street, City Road, London, N., are sole agents) have anticipated Dr. Salisbury Sharp, for "Klim" apparently carries out his ideas, and at a moderate price, for it sells at 6½d. and 1s. 6d. per bottle, the wholesale prices being 5s. and 15s. per dozen. It should "sell at sight."

"RHEL-AHMA" means "best of its kind," and the Rhel-Ahma Manufacturing Co., 68 Aldersgate Street, London, E.C., make it known to the public in connection with their hair-preparations. The first of these is "Ivalin," a medicated brillianine in the form of a white cream, which is put up in 2-oz. collapsible tubes to retail at 1s. each (with 11d. as a minimum). It is an excellent preparation, keeping the most stubborn hair in place and putting a shine on the driest. The Company have a beautiful counter showcard in which the properties of "Ivalin" are set forth in an artistic manner. The card measures 7½ by 6 in., has a cushioned appearance, and is highly varnished in white, so that it looks like china. A violet velvet-surfaced card is also offered. The Company manufacture in addition a hair-lotion named "Rhel-Ahma" which retails at 3s. (f.m.r. 2s. 9d.). This preparation is put up in an original manner, the labels being the most artistically produced that we have seen for a long time. The preparations are being put on the P.A.T.A. list, and cost the retailer 8s. and 24s. per doz.



MALT EXTRACT AND ITS PREPARATIONS.—Messrs. Allen & Hanburys, Ltd., Bethnal Green, London, E., were among the first makers of malt extract and malt oil in this country, and have recently had to cope with a much increased demand for their products. They have also extended the series of containers and are thus able to meet the varied demands of customers who may wish to be distinctive in this regard. They stock amber jars fitted with double air-tight caps in the square shape, oval shape, and round shape, as well as wide-mouth amber-bottled fitted with screw cap. To those customers who prefer porcelain jars they can supply these fitted with double-screw caps. All jars are supplied in four sizes—for ½ lb., 1 lb., 2 lb., and 4 lb., by weight. Two new designs for malt oil and two for cod-liver oil emulsion have been added to the assortment of labels and cartons. Specimens can be obtained on application.

MESSRS. FRANCIS NEWBURY & SONS, LTD., Charterhouse Square, London, E.C., have ready for distribution their 1910 catalogue of druggists' sundries, proprietary medicines, perfumery, and sugar-coated pills (Warner's). There are 440 octavo pages in it, and this is the thirtieth consecutive annual catalogue—how many preceded it from 1746 to 1880 we do not know. In the proprietary goods section 611 entries have been removed, 392 new entries have been made, and 417 quotations are modified compared with the last issue. The list of proprietary articles containing scheduled poisons has been revised, and the particulars procurable appear in the alphabetical list against each article affected. Applications for copies of the price list may be sent to the above address.

Information Department.



Postal Address : C. & D. INFORMATION DEPARTMENT, 42 Cannon Street, London, E.C.

Telegraphic Address : "CHEMICUS LONDON."

Telephone No. : BANK 852 (two lines)

The object of this Department is to supply names and addresses of Manufacturers of, or Agents for, goods pertaining to the Chemical, Drug and Allied Trades. The "Buyers' Guide" in each issue of "The Chemist and Druggist" affords much information, but enquiries for anything not referred to therein may be addressed to this Department. Replies will be furnished immediately, or inserted in this section free of charge.

INFORMATION WANTED.

We would be obliged if any reader would inform us by post-card or telephone who are the makers or agents of the articles mentioned in the following inquiries received since our last issue:

- 110/34. "Blandol"; supply.
- 103/65. "Anathine"; supply.
- 70/22. "Caledonia" food; makers.
- 125/13. Benbow's hair-wash; supply.
- 110/47. "Anacoca"; makers or agents.
- 107/57. "Aurora" bandages; makers.
- 154/9. "Aquarine," food; proprietors.
- 172/9. Bullock's pain subduer; makers.
- 157/68. Glycerite of ozone (Buchanan's).
- 66/22. Beller's one-solution hair-dye; supply.
- 133/30. Biltong syrup; proprietors or agents.
- 153/66. "Chick Chick" chewing gum; makers.
- 145/61. Burrough's rheumatism lotion; makers.
- 244/61. "Xylopa" perfume; maker or supplier.
- 46/19. "Bisol" court plasters; makers or agents.
- 122/62. "Antiformin" (base for skin preparation).
- 245/2. Suppliers of "Master Masseur's Ointment."
- 245/7. "Gossamer" bandages; where obtainable.
- 201/66. Caldwell's veterinary preparations; makers.
- 108/4. "Bunot's Loo" (hair-curling fluid); makers.
- 239/60. "Y-aritu" brand Castile soap (Spanish make).
- 244/54. Agents in this country for Ernst Sandow's bath salts.
- 244/68. Earthenware and porcelain pill-tiles; actual makers.
- 243/67. Oblong "Health Salt" tins ($1\frac{1}{8} \times 1\frac{3}{8}$ in.); actual makers.
- 244/70. Proprietors of "Dr. Simpson's remedy for nasal catarrh."
- 244/73. Makers of "Dr. Davis's Triple Spring Arch-support."
- 242/19. Wentworth's "Seminoids": who are the proprietors?
- 241/19. Makers or agents for "Rex" in tins—a soap for grimy hands.
- 241/64. "Medopathic" or "Perfect Sanitary Toilet Roll": suppliers.
- 245/8. Actual makers of "Aercel" or "Aertex cellular washing squares, made in U.S.A., knit or woven."

INFORMATION SUPPLIED.

During the past week we have answered inquiries regarding the following articles. The information will be repeated to any other inquirers who send to the Department a stamped and addressed envelope for the purpose.

- "Aercel" washing squares; supply (241/40).
- "Anchor" brand bottles; makers (240/32).
- Ant-killer apparatus; supply (241/8).
- Apparatus for softening hard water; suppliers (239/22).
- "Canthos" plaster; makers and agents (241/38).
- Celluloid, crude; actual makers (236/59).
- "Chloros" disinfectants; makers (236/72).

- Confectionery analysis; specialist (237/2).
- Crembas; makers and London agents (242/27).
- Disinfectants; analytical authorities (244/53).
- Epsom Salts; Continental manufacturers and agents (238/59).
- "Flykatcho"; maker (239/25).
- Queen Pomade Patchouly; makers (240/24).
- Garrould's diffusers; makers (244/69).
- Hawley's serum for locomotor ataxy; London supply (244/31).
- Hill's Pomade Hongroise; makers (239/47).
- Kapp's soap; agents in Australia (241/60).
- Laurence's book on "The Eye"; publishers (241/46).
- "Linasha"; proprietors (244/39).
- London shippers for Penang, Singapore, etc. (243/68).
- Metal moulds; makers (243/71).
- Mexican tea; proprietors (244/70).
- Nathan's agents (240/6).
- Nicotine; actual makers (242/26).
- P.A.T.A.; particulars of (236/63).
- Peake, Allen & Co.'s agents (240/6).
- Penny and twopenny lines; packers (240/25).
- "Pharos" disinfectants; makers (236/72).
- Roberts-Hawley Lymph Compound; agents (242/6).
- Ross' life pills; proprietors (241/43).
- Seltzogenes; makers (239/64).
- Snake-bite lancets; supply (238/39).
- Soxhlet's cocoa; supply (239/63).
- "Sylvia" nailstones; makers (239/61).
- Syphons; actual makers (239/64).
- Sandow's carbonated bath salts; maker (244/54).
- Tannopumilio; makers (241/67).
- "Universal" insect-destroying apparatus; supply (241/8).

APPRECIATIONS.

Many thanks for past replies. This department is a splendid help to business. (241/38.)

Many thanks for your courteous letter of the 3rd inst. and for the information conveyed therein. (98/35.)

Please accept our best thanks for your letter of the 7th inst. and for the information contained therein. (101/42.)

We thank you for the further information conveyed in yours of the 5th instant. Your column is a "godsend" in such difficulties as these, and we much appreciate it. (101/61.)

I have to acknowledge receipt of your letter of the 3rd inst., and to thank you for your prompt reply to my inquiry. I shall have great pleasure in mentioning the C. & D. in communications. (97/15.)

Your favour to hand this morning. There is not much that passes the notice of THE CHEMIST AND DRUGGIST, and we often think it is wonderful the knowledge shown of the ins-and-outs and intricacies of the drug-trade. You are quite right, the preparation required is ours, and we have quoted and sent sample, and thank you for bringing this under our notice. (101/71.)

Observations and Reflections.

By Xrayser II.

The P.A.T.A. Report

indicates an exceedingly healthy condition of affairs. A clear surplus of 1,000*l.* on a total income of some 2,715*l.* shows that there has been excellent management on the part of the officials of the Association, while the smallness of the "Stop List" is evidence that the trade generally are loyal to the principle embodied in the Association. It cannot be pretended that a membership which represents less than half of those available is anything like so large as it ought to be, especially when it is kept in mind that the entire trade share in the benefits that have resulted from its formation, and common gratitude ought to induce a much larger proportion of chemists in business to become members. The firm stand taken by the Association in connection with co-operative trading has been of immense value, and it is to be hoped that as the years pass there will be continuity of growth, purpose, and effort. It cannot fail to be noted that in direct proportion to the membership of the Association will be its power and usefulness.

Annual Conferences

are the order of the day, and this week there are meetings of the Pharmaceutical Conference, the British Medical Association, and the Veterinary Association. It is anticipated that some progress will be recorded on the vexed question of prescribing and dispensing, though I am doubtful whether such a one-sided committee as that selected to represent the pharmacists will carry any moral weight when the recommendations come to be laid before the trade. There seems to be good ground for believing that dispensing by medical men is increasing, and I am quite sure that it will take more than a "recommendation" to put a stop to the practice. Nor is it in the least degree likely that the General Medical Council will take up the question, and much as I would hail the prospect of a complete differentiation of function which would restrict prescribing to the doctors and dispensing to the chemists, my judgment warns me that such a consummation is not likely to be seen in our day.

The Purity of Chloroform

and other anæsthetics, which was referred to by Mr. Thomas in *THE CHEMIST AND DRUGGIST* of July 16, is a subject of perennial interest. As long as accidents happen and fatalities occur during the administration of anæsthetics, and so long as persistent nausea follows the use of chloroform, there will be doubts as to the purity of the anæsthetic employed. Is it quite certain that the anæsthetic is to blame, and not, rather, the method of administration? I remember, many years ago, a well-known firm of chloroform manufacturers issuing a public challenge to anyone who could detect any difference between chloroform made from pure and that made from methylated spirit, either by chemical or physiological tests, and, to the best of my recollection, that challenge has never been taken up. Since that day acetone chloroform has come on the market, and I believe I am right in saying that it is impossible to detect this either—except that it is devoid of the trace of ethyl chloride which can be detected in chloroform made from alcohol, pure or methylated. An old anæsthetist used to say that the man whose patients collapsed or became nauseated under chloroform did not know his business, and I sometimes wonder if it is not ignorance and inexperience that are responsible for so many bad results following general anæsthesia.

Appendicitis,

said Sir Lauder Brunton, speaking last week at the Public Health Congress at Birkenhead, apparently coincides with the alteration in the method of grinding corn. This has been understood as meaning that particles of steel detached from the rollers now used get mixed with the flour and cause irritation; which does not seem, on the face of it, a very likely thing to happen and is declared by a leading firm of millers to be absolutely impossible. The prevalent use of soft foods and the consequent decay of teeth have more plausibly been put forward by another authority as the main cause. This change in the nature of our food, and especially of that of the working-classes, with its bad effect on health, was the subject of Sir Thomas Oliver's address at the same Congress, the gist of his remarks, as reported, being that greatly as the workers have improved their position during the last hundred years, they are not better fed, though they are more fed, than was the case then. My memory does not reach quite so far back, but I am sure that the rural labourer, at any rate, is much better fed now than he was fifty years since. The substitution of tinned and preserved foods for home-cooked articles was strongly condemned by Sir Thomas, and no doubt home-cooked meats are much superior; but tinned meat is better than none, and in many a working-class household the choice still is between these alternatives. The conclusion suggested by a study of the speeches at the Congress is that neither the physician's nor the pharmacist's occupation is yet gone or in immediate danger. Sir Lauder Brunton's remark that "the most pressing problem at present is to ascertain not only the nature of the microbes which cause disease, but the means by which they are carried," may be contrasted with what Mr. Maughan says of malaria, in his valuable book "*Zambezia*":

We know that the *Anopheles* mosquito transmits the germ which propagates the fever microbe, but the real moment for self-gratulation will not have come until we can lay our finger upon the source of the germ and kill it there.

Sunday Trading

by pharmacists has so rarely been made the occasion of a legal prosecution that I do not remember a single case before the one reported from Cleethorpes last week, and much sympathy will be felt for Mr. Cook. Probably no pharmacist wishes to encourage Sunday trading, but, as your editorial columns have recently shown, there is both a general demand and a real necessity for many of us to open our shops for some part of the day, and when they are open it is almost inevitable that we should sometimes sell things which are not, strictly speaking, necessities. Picture postcards certainly are not necessities from the therapeutical point of view; I have seen a good many that might conceivably make a man ill, but rarely one that could be held likely to recover him of his sickness. Still, if it is allowable for a railway company to carry trippers to Cleethorpes, it is difficult to see why a tradesman should be debarred from selling them a souvenir of the trip. Prosecution, whether of a chemist or of anybody else, under the Lord's Day Observance Act is always more or less of an injustice, because the Act is so capriciously enforced. For every one who is proceeded against a thousand are allowed to go free. Moreover, public opinion is so sharply divided with regard to the Act itself that no individual can be held even morally at fault for giving it a very liberal interpretation. The Shop Hours Bill, when it comes into force, will increase the liability of chemists to prosecution for this offence; other tradesmen will be more than ever jealous of our "privileges," and the "active and intelligent" police officer more on the alert. It would probably be held a *reductio ad absurdum* to suggest that a schedule of articles legally saleable by pharmacists on Sundays should be added to the Bill, but, wanting this, who is to decide what are and what are not medical necessities? Are feeding-bottles? Are "soothers"? Dr. James Cantlie would say, certainly not the latter. The subject bristles with difficulties.

"SANITAS-SYPOL" FOR ANTISEPTIC SURGERY,

Is now in strong demand, and is a clear, bright liquid which gives a perfectly clear and transparent solution when mixed with water, so that instruments can be discerned in same quite easily. It is non-caustic, free from slipperiness when diluted, and has no corrosive action on the hands or instruments.

"SANITAS-SYPOL" has a high bacteriological co-efficient, and particularly so in the presence of organic matter.

6d. and 1/- bottles, and 6/- per gallon.

— Trade Prices on application. —

The "SANITAS" CO., LTD.
Locksley Street, Limehouse, London, E.

WARRICK BROTHERS.

**JAMES
BURROUGH
LTD.**
D.I. Cale Distillery,
Hutton Road,
LAMBETH,
S.E.

SVR

AND
METHYLATED
SPIRIT

at lowest prices.

Write for Quotations.

G. S. MUMFORD & SONS, FARRINGTON RD., LONDON, E.C.

Finest ARROWROOT	1/ lb.	No. 1 Finest Pure FULLER'S EARTH (Light Colour)	15/ cwt.
BICARB. SODA	15/ cwt.	Best Cleaned LINSEED (TEA)	21/ cwt.
Finest Extra Special BORACIC ACID	40/ cwt.	Finest Pure LIQUORICE JUICE	/10 lb.
POWDER, Finest		Finest Compound LIQUORICE POWDER	8 & 1/ lb.
No. 1 Finest Pure CRUSHED LINSEED	25/ cwt.	PUMICE POWDER	35/ cwt.
No. 2 Pure CRUSHED LINSEED	24/ cwt.	Extra Finest Levigated PRECIP. CHALK	25/ cwt.
Best Clean LINSEED	24/ cwt.	No. 1 Finest Light Pure STARCH POWDER	22/ cwt.
EPSOM SALTS, E.S.S.	11/6 cwt.	Finest Pure TOILET	32/ cwt.
Purified, Clean, and Dry Ditto, Medium Crystals	12/6 ..	OATMEAL, SPECIAL	18/ cwt.
FLOWERS OF SUL- PHUR, Finest English	13/6 cwt.	Finest Levigated "WHITE EARTH" (Toilet purposes)	
Ditto, Foreign	9/6 ..		
FULLER'S EARTH (In Dredgers)	5/6 11/22		

Carriage Paid on £1 (assorted or otherwise). Smaller parcels free on rail London. Terms, less 3% per cent. Cash or 1 month net.

EVEN very cheap printing can be good. ¶ Good in design and distinctiveness. ¶ Good in colour. ¶ **THE ARDEN PRESS, LETCHWORTH**, specializes in producing printing for all purposes with just that note of character which makes all the difference. Send for samples **THE ARDEN PRESS LETCHWORTH HERTS**

SARTOLIN

New Remedy for CONSUMPTION & ASTHMA.

Write for Booklet, sent Post Free.

**SARTOLIN, LTD., 20 HIGH HOLBORN,
LONDON, W.C.**

FLETCHERS' FOR TINCTURES, INFUSIONS,
AND SYRUPS.

CONCENTRATED

Sole Proprietors:
FLETCHER, FLETCHER & CO., Ltd.
London and Sydney.

LIQUORS

Editorial Articles.

The B.P.C.

"THE British Pharmaceutical Conference is and always will be," said the late Mr. A. C. Wootton, "a luxury for the comparative few"; and on another occasion he said, "by all means let the Conference retain its strictly scientific character." This week Cambridge has been the principal host of members of the Conference, and several neighbouring towns have extended hospitality in the non-scientific parts of the programme. It appears, at the moment, that the B.P.C. is recovering. Some of its best friends feared, a year or two ago, that it was waning to extinction, this fear being due chiefly to the fact that the membership is not large, the subscription is small and the income in proportion, while all that comes in is given back to the members again in the Conference's "Year-Book" and slight working expenses. Another reason for the fear is that those who attend the meetings year by year find many new faces at the meetings, and old ones are absent. Nothing is so favourable to personal despondency as that, but it does not necessarily imply decadence—the opposite, in fact. At any rate, when a year comes such as the present, with preliminary evidence of a success in all departments, a popular President, a splendid list of papers, an unusual and exciting topic in proposed amalgamation with the Federation of

Local Pharmaceutical Associations, and a gathering of chemists from far and near, home and abroad British pharmacy does not want the Conference to die. It is the one Imperial pharmaceutical body in the British Empire, a neutral meeting-ground for pharmacists, retail and wholesale, English, Irish, Scots, Welsh, Colonial and Indian, and it is worth keeping up as a gathering-ground for all, while its immediate purpose is a necessity for the progress of British pharmacy as an Art and as a department of Science. We are not enamoured of the proposal to add to it a Commercial Section, but if handled with care such a section might be made serviceable to chemists and druggists. The technical programme of this week sufficiently proves that the Conference attracts practical and scientific papers, which fill up all the time available for reading and discussion. We do not propose on this occasion to comment upon them here in detail (concise summaries of the subjects appear on p. 134), but it may be said that the papers on disinfectants are the feature of the occasion. The subject is very controversial, but this may be overlooked in view of the fact that chemists and druggists have the opportunity of learning from leading experts how far short of actuality come chemical and bacterial methods of valuation.

The Dental Bill.

At the annual meeting of the British Dental Association to be held in Liverpool next week, the Bill to amend the Dentists Act, 1878, as revised by the Representative Board of the Association, will be discussed. By the time that a decision in regard to it is come to, Parliament will have adjourned until November 8, and when Parliament re-assembles Government business alone will be taken. Therefore, the Association's Bill cannot be proceeded with, even if introduced, until a new Session of Parliament begins, about February 1911. We put this statement at the forefront because most chemists who are writing to us on the subject do so as if the danger were immediate, whereas there is ample time for all interested to work quietly in preparation for the fight, if any, which may be fought in Parliament and the lobbies of St. Stephen's. We say "if any" advisedly. In the first place, it is by no means certain that the British Medical Association members will support the Bill as it stands. Some of the provisions are too ridiculous for sane dentists to endorse. In the second place, it is likely to provoke laughter in influential quarters; there is much in it which interferes with the interests of highly placed persons and bodies, who may do all the fighting that is necessary. For example, under the exemption of existing practitioners clause, County Court Judges and Scots Sheriffs have a good bit of work added to their present duties by the provision that they should give the certificates of exemption. The law officers of the Crown may have something to say about that. Part III. of the Bill provides for direct dental representatives on the General Medical Council, three in all; they will form a Dental Board of the Council, and receive fees and expenses like other members of the Council. The proposals signify considerable disturbance of the Council's present machinery for dental business, and would further strain an exchequer which has been proved to be inelastic and inadequate for statutory purposes. The General Medical Council will have something to say about these proposals, and it will, no doubt, also join with licensing bodies in opposing the proposal that it should hold yearly a State Dental examination. The Council is one of "medical [and dental] edu-

cation and registration," examination being outside its province, and it will not meekly accept a big extension of its functions, even although the Bill holds out hopes of profit from examination fees. Then the Commissioners of Inland Revenue are to be called in to help the promoters of the Bill in their designs. When the Bill passes every person who lawfully practises dental surgery is to apply to the Commissioners for a certificate entitling him to practise, for which he will pay 1*l.*, and for every annual renewal of the certificate 5*s.* At present there are 5,037 dentists on the Register, and there are probably as many who would be entitled to practise under Clause 2; say, 10,000 five-pound notes annually to the Exchequer. The Chancellor and Commissioners do not object, as a rule, to adventitious contributions. This looks like another sop to Cerberus. It will thus be seen that when chemists who are opposed to the novel and revolutionary principles of the Bill come to fight it they will have some strong allies, and there is no fear that a good fight can not be made. Several experienced men are already doing something, and in good time they will get together all who desire to ensure continuance of the rights which they at present enjoy under the common law of the land.

Otto of Rose.

DURING the past two weeks the Bulgarian otto-of-rose market has been somewhat excited, but the latest intelligence is to the effect that business in the villages is now much quieter. It appears to be freely acknowledged on all hands that on account of inclement conditions and blight this year's crop of otto of rose is only an average one, say from 85,000 to 90,000 oz., which is about 25 per cent. less than last year. But we understand from several quarters (whose interests are not identical) that extensive adulteration is being carried on, which will probably have the effect of swelling the crop to 130,000 oz. or 140,000 oz., added to which there is a stock of some 14,000 oz. held over from last year which is in the hands of a few dealers and jobbers. Considering the price of this year's rose-flowers and the yield from them, it is suggested that the price of pure otto this season should not be more than 20 to 25 per cent. above that of last year. As is not unusual, however, several exporting houses in Bulgaria are endeavouring to establish prices on a much higher level, and with that intention they have purchased from the various native distillers small lots varying from 50 to 100 oz. at between 26*s.* and 30*s.* per oz., and in some villages even higher prices have been paid. At the same time we understand from two sources that a large quantity (one informant places it at 65,000 oz.) of German geraniol and synthetic otto has been smuggled into Bulgaria and that sophisticators have been busy during the harvest rectifying their adulterants with fresh rose-flowers. Do not these facts account in a measure for the anxiety to pay famine rates at the commencement of the season, as the inference is, the higher the prices paid in Bulgaria, the more readily can "made-up" grades be disposed of? We also understand that a new adulterant, as yet not identified, of a greasy consistency, is being resorted to this season, of which we shall no doubt hear further as the season advances. If the present tactics of advancing prices to famine rates should succeed, the demand on the part of consumers will naturally be restricted, and, as we have stated on former occasions, the tendency will be to replace natural with synthetic otto, especially in view of the fact that fine brands of the latter are offered at the extremely low price of 5*s.* per oz. and less. On the other hand,

there are other houses, knowing well the conditions of consuming markets, who are making strenuous efforts to maintain the price of pure otto at a level at which it can be advantageously used, but it will be readily seen from the above that there is much opposition to contend with from the owners of old stock. It is thought that the present prohibitive prices cannot hold good for any length of time, and that they must come down to a more normal level, otherwise a considerable portion of the output is likely to remain unsold.

Clergyman's Sore Throat.

FOR many years the Revenue authorities did not regard clergyman's sore throat as an ailment for the purpose of the Medicine-stamp Acts. We are indebted to Messrs. Francis Newbery & Sons, Ltd., for correspondence with the Board of Customs and Excise which shows that they now do so. Messrs. Newbery are the proprietors of Doughty's Voice Lozenges, and they are recommended as being specially useful where clergyman's sore throat and roughness of the voice are present, but the Solicitor of Inland Revenue stated in 1889 that the lozenges are not liable to medicine stamp-duty. He also stated that they are not a medicine. The late Mr. Alpe in his "Handy-book" classed clergyman's sore throat among the conditions which are not considered to be ailments. A few years ago the authorities ruled that the expression denotes an ailment unless the sore throat is stated to be due to over-straining of the voice, and the same in regard to "hoarseness."

Messrs. Newbery received from the Board of Customs and Excise last October a letter complaining that they had supplied retail chemists with unstamped boxes of Doughty's voice lozenges, although this article is liable to medicine stamp-duty, by its recommendation for the cure or relief of ailments incident to the human body, and also by the proprietary right claimed in respect to it.

Messrs. Newbery replied that the lozenges are not a medicine, nor are they recommended for the cure or relief of human ailments, and quoted Sir William Melvill (the solicitor referred to) as their authority. The Board in their reply reiterated their complaint, and offered to accept 2*l.* as a mitigated penalty, provided Messrs. Newbery did not "do it again"; but the Charterhouse Square people are not novices in dutiable-medicine matters, and they recalled all their correspondence of twenty years ago with Sir William Melvill. No trace of this could be found in the department. After a personal interview, and submission by Messrs. Newbery of the 1889 correspondence, the Board decided, having regard to all the circumstances, not to insist on payment of the compromise fine, provided that references to the ailments "clergyman's sore throat" and "relaxed throat" are eliminated from the labels and wrappers of the lozenges. It appears that by this elimination "Doughty's Voice Lozenges" are removed from the medicine class and become a sweetmeat, therefore not dutiable. The correspondence leaves no doubt that the Board consider clergyman's sore throat and relaxed throat as ailments (the former they regard as laryngitis), but in the case of Doughty's Voice Lozenges the reservation as to over-straining of the voice was not used, and it would be interesting to have the decision of the Board on this point.

Medicinal Wines and Spirits.

THE problem of the sale by chemists and druggists of *ean de carmes*, *eau de menthe*, and similar preparations of a medicinal character has to be regarded from the point of view of the interpretation by the Board of Customs and

Excise of the provisions of the Finance (1909-10) Act which relate to the sale of spirits by retail. The decision of the Board in 1906, that such preparations were to be regarded as spirits and saleable only under the licences required for the sale of spirits in bottle, has been acquiesced in so long that there appears to be little hope of having it directly reversed. At the same time the harshness of the decision has been so strongly accentuated by the view taken by the Board of Customs and Excise as to the changes introduced by the Finance Act that it would be well worth while to have some concerted action taken with a view to a modification of the law in this regard. Instead of a chemist being able, as before the Act, to sell these liqueurs under a retail spirits-in-bottle licence in the bottles in which imported, irrespective of the smallness of the quantity contained in the bottle, he is now allowed under the official reading of the Act to sell these preparations only when the sale is of not less than a reputed quart of each description to one person at one time. If this interpretation of the Act be, which we doubt, the correct one, its effect must inevitably be to make the sale of the preparations impossible for the retail chemist; as having regard to the price, dosage, medicinal properties, and uses to which they are put, their sale in quantities of a quart or upwards of the same description at a time is hardly ever likely to take place. A similar interpretation of the new law works hardship also in the case of traders who sell such wines as *coca*, *beef* and *malt* partly medicated wines, and the like. In future the least quantity which can be sold of one of these under a wine retail off-licence is a pint of the same description of wine to the same person at one time. It will not be permissible for a chemist to sell an aggregate quantity of a pint made up of two or more medicated wines of different descriptions, but each separately less than a pint. The language of the Finance (1909-10) Act itself is so plainly at variance with the official view that we are at a loss to understand how this view was ever arrived at. We must congratulate our Scots readers that it does not apply to them.

Chemists and Jury-service.

It will be observed with regret that the Speaker has ruled as out of order the amendment to the Juries Bill exempting chemists and druggists from jury-service. This issue was not unforeseen, and we were conscious that it might happen when we moved in the matter last April; but there is reason to hope that on the earliest occasion the claims of chemists and druggists in this matter will be recognised. The Solicitor-General co-operated with Mr. Percy Alden, and this fact is of the highest importance for the future. We trust that many chemists will individually thank Mr. Alden for his services to them.

THE imports of chemicals, drugs, and perfumes into Coquimbo during 1909 amounted to 3,360*l.*, against 3,135*l.* in 1908 and 5,690*l.* in 1907.

ROUEN CHEMICAL-TRADE.—Among the imports into Rouen obtained from the United Kingdom during 1909 were the following: Ammoniacal salts, 567 tons (1908, 851 tons); caustic soda, 200 tons (1908, 170 tons); magnes. chlor., 572 tons (1908, 411 tons); iron oxide, 220 tons (1908, 211 tons); alumina sulphate, 243 tons (1908, 218 tons); copper sulphate, 293 tons (1908, 1,215 tons); magnesia sulphate, 1,854 tons (1908, 1,172 tons); chemicals not classified, 657 tons (1908, 672 tons); methylic alcohol, 131 tons (1908, 134 tons); castor oil, 167 tons (1908, 270 tons). Among the exports from Rouen to the United Kingdom were acetate of soda, 130 tons (1908, 71 tons); potash and carbonate of potash, 701 tons (1908, 321 tons). The volume of business in the chemical-trade again diminished in 1909, especially that in the manufacture of which soda is used; the output of alum was distinctly less, and the price, already low, remained the same. Sales of mineral acids were poor, but the manufacture of celluloid appears to be improving.

The Cambridge Conference.

Notes and pictures dealing with the social side of the Meeting of the British Pharmaceutical Conference held at Cambridge this week.
The Report of the Conference Scientific Meetings begins on p. 189.

THE first public function in connection with the Cambridge meeting of the Conference took place on Monday evening, July 25, when the members were invited by Dr. J. Reynolds Green and the Local Committee to a reception at St. John's College. The reception began at 9 o'clock, the Combination Room being reached by a staircase. In this room, illuminated by candles, and with the panelled walls covered by portraits, the members of the Conference were received by Dr. J. Reynolds Green and Miss Green and Mr. and Mrs. F. Ransom.



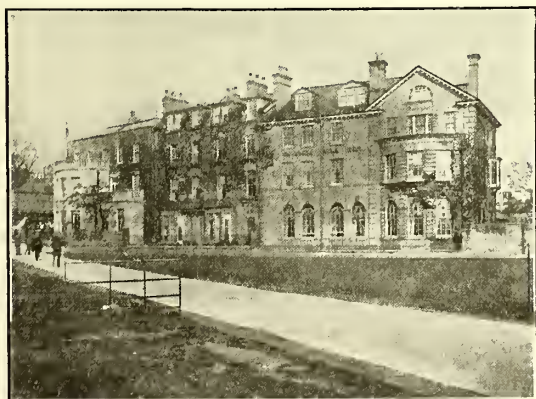
DR. J. REYNOLDS GREEN, Sc.D., F.R.S., F.L.S.,
 Chairman of the Conference Local Committee.

Dr. Reynolds Green is a native of Stowmarket, a Scholar of Trinity College and a Fellow of Downing College, Cambridge. He was Professor of Botany to the Pharmaceutical Society of Great Britain from 1897 to 1907, and is now Lecturer at Downing College and Hartley Professor of Vegetable Physiology at the University of Liverpool. (The photograph is by Mr. J. Palmer Clarke, Cambridge.)

After the reception a move was made to the Dining Hall—a fine apartment, panelled, hung with oil-paintings, and lighted by electricity—where the St. John's College chapel choir, under the conductorship of Dr. Cyril Rootham, sang some delightful madrigals and part-songs. The programme was in two parts, and between them refreshments, which were spread on long tables at the far end of the hall, were served. The guests went home or to their hotels at about 10.30.

* * *

The number of books of tickets that have been sold is over 180, and the visitors are distributed between the five chief



UNIVERSITY ARMS HOTEL. HEADQUARTERS OF THE CONFERENCE.

hotels. The headquarters are at the University Arms Hotel, but the number staying there is limited by the small amount of accommodation available. The largest number are staying at the Lion.

On Tuesday morning, after the delivery of the President's address, the ladies withdrew from the meeting, and were conducted by motor 'bus and *à pied* to Newnham College. The party, which was not of ladies only, numbered about 100. Arrived at the College, the visitors were shown through the interesting parts of the College by Miss Stevens, who was formerly secretary to Miss Gladstone. The library, chemical laboratory, and the fine grounds were much admired.

* * *

In the afternoon, while the Federation meeting was being held, parties were organised to view some of the Colleges. Among those visited were King's, St. Catherine's, Corpus Christi, and Peterhouse. In the last named



GROUP OUTSIDE KING'S COLLEGE.

Taken on Tuesday by Mr. J. Cleworth. The names are (left to right): Mr. W. L. Howie, Mrs. Howie, Mrs. F. Ransom, Mrs. Peck, Mr. Cooper (South Africa), and Mr. K. C. Allen.

College the beautiful Morris windows in the chapel were specially admired. It should be added that some of the younger members of the Conference preferred trips on the river as the best way of seeing the Colleges, and perhaps after all the choice of a punt for the purpose was wise.

* * *

The luncheons each day took place in the large Assembly Room of the Lion Hotel, which is conveniently near the Botany School. On the Tuesday Ald. Campkin presided until Mr. Ransom arrived. The luncheon was well served, and gave satisfaction all round. After luncheon the President proposed the toast of "The King," but there were no speeches.



ELY CATHEDRAL.

The entertainment included an organ recital by Dr. Mann, in King's College Chapel, and subsequently a concert in the Hall of the same college. The

former was given in the "dim religious light" afforded by wax candles. It was listened to with great appreciation, and there were many among the visitors who, if they had been permitted to follow their own inclinations, would have preferred to remain in the historical church a

torical features of the venerable pile. Then in two parties (one conducted by the Dean) they went over it all. An organ recital was given before all retired. Tea was served in the public hall, Mr. Druce presiding, as Mr. Ransom was reserving himself for the final day's work. Votes of thanks



Group taken at Emmanuel College Fellows' Garden, Cambridge, on Tuesday afternoon by Mr. J. Palmer Clarke, Art Photographer, Post Office Terrace, Cambridge, who will supply copies at 3s. 6d. each. The original is 15 in. by 12 in.

little longer than the half-hour laid down in the programme. They afterwards proceeded to the Hall of the College, where the concert took place. All were in evening dress, and by their presence the hall, at other times devoted to the uses of the students, more resembled a concert room in the West End of London. The programme was select in more respects than one. The renderings were from the most renowned composers; the artistes would do credit to any platform in the United Kingdom. Mr. Joseph Hill, who was to have acted as accompanist, was unable to be present, but Mrs. R. L. Eber deputised for him. The singers were Dr. Graham, Miss Florence Aikin, Mr. Jos. Reed, Miss Alice Cotton, Miss Irene Flanders (daughter of Mr. Flanders, chemist, Cambridge), and Mr. R. R. Morris. There were several encores during the evening.

* * *

On the occasion of the visit to Ely on Wednesday afternoon, the Bishop gave special permission to the Conference party to walk through his fine old-fashioned garden. In the arrangements for this visit the Cambridge Committee desire to acknowledge their indebtedness to Mr. W. Lincolne, senr., chemist, Ely, whose portrait we give alongside one of Mr. Sidney J. Parsons, one of the Local Committee, which came too late to place with others on a later page.



MR. LINCOLNE.



MR. PARSONS.

The visit proved to be most delightful and the weather was fine. When the party arrived at the Cathedral a lecture was delivered on the architectural, ecclesiastical, and his-

torical features of the venerable pile. Then in two parties (one conducted by the Dean) they went over it all. The latter had given each member on arrival a copy of a guide-book to the Cathedral and town. After tea the Bishop's garden was visited.

An event which, so far as we are aware, is unique in the history of the Conference transpired on Tuesday. The Hon. Local Secretary (Mr. A. A. Deck) is to be married as soon after the meeting as possible, viz. next week. Everyone present has subscribed a shilling to give him a wedding present.

* * *

Mr. R. A. Robinson, J.P., took the chair at the smoking-concert on Wednesday evening. Sir Edward Evans usually presides at these functions, but he is not attending the Conference this year.

The garden party at Emmanuel College on Tuesday afternoon took place in brilliant sunshine, which made the function particularly appreciated. Tea was served in the College Hall, after which the visitors went out into the Fellows' Garden, where seats were arranged beneath the trees and ices were served. A group photograph was taken by Mr. Goodrich, of the firm of J. Palmer Clarke, Mr. Turner, of St. Ives, relieving the tedium between the exposures by witty allusions and quick repartees. After the photographs had been taken, the party dispersed.

* * *

The "Irresponsible Critic's" candle went out in his bedroom on Tuesday evening, when he had got to the end of his fourth page of foolscap, and this is what we find on that page (the others are taken *ad avizandum*):

Now for the next consideration of this essay—the *why*—i.e., *why* do we come at all?

Do we come to enjoy the hearty welcome of a lot of hard-worked citizens?

Do they "cuss" us for coming?

Do we come to get away as quickly as possible; "important business—what?"

Do we come intent to see the thing through to the bitter end?

Do we come to show the citizens the Parisian frocks on our wives and daughters?

Do they come ditto, only more so?

Do we come for ad—? Hush, hush!

Do we dodge Mr. and Mrs. No. 6? Blank all day long because we are not quite sure whether we have asked them what day they arrived, and whether it was by the G.E. or the G.N.?

Do we ditto because ditto going back Wednesday or doing Saffron Walden on the Thursday?

Do we ultimately resolve that the Conference members No. 1 to 1000 odd might mutually agree to dissolve *sine die*, and do their—hush, hush!—through the medium of the C. & D., and so save the boredom and the expense?



GROUP OF LADIES' LOCAL COMMITTEE.

Taken by Mr. J. Cleworth on Tuesday outside the Botanical School. The names are (left to right): Seated: Mrs. Campkin, Mrs. H. F. Cook (Chairman), Mrs. Beall, Mrs. Mallett. Standing: Mrs. E. S. Peck, Mrs. Evans, Mrs. Flanders, and Mrs. Barker.

Who were There.

Abraham, T. F., Liverpool
Alcock, F. H., and Mrs., Birmingham
Allen, K. C., London
Ashton, F. W., London
Attenburrow, J., Melton Mowbray
Bagshaw, H., Mrs. and Miss, Oldham
Balmforth, A., Manchester
Barker, —, and Mrs., Cambridge
Bayne, Thos., Edinburgh
Beall, G. E., Cambridge
Bell, M. A., Southsea
Bell, W. J., Tynemouth
Bennett, R. R., London
Beresford, Fred H., and Mrs., Lilyvale, Victoria, Australia
Blain, W. R., and Mrs., Bolton
Bourdass, I., and Miss, London
Bourne, H. F., Torquay
Branson, F. W., Leeds
Bremridge, R., London
Brewis, E. T., London
Brown, G., Croydon
Bruce, A. B., Cambridge
Buchanan, Miss M. E., London
Burford, S. F., Leicester
Campion, S. H., London
Campkin, A. S., and Mrs., Cambridge
Cave, J. R., Southport
Church, E. H., Cambridge
Clague, Thos. M., and Mrs., Newcastle-on-Tyne
Clark, R. Feaver, Gravesend
Clayton, C., Oxford
Cleworth, John, Manchester
Cook, H. F., and Mrs., Cambridge
Cooper, J. W., Bedford, C.C.
Cowie, W. B., Edinburgh
Cresswell, E. J., London
Cripps, R. A., Hove
Cross, W. Gowen, and Mrs., Shrewsbury
Crosley-Holland, —, Ilford
Daniels, M. L., London
Deane, Harold, and Mrs., Sudbury
Deck, Arthur, Cambridge
Dey, A. J., Edinburgh
Dixon, C. H., London
Druce, G. Claridge, Oxford
Duncan, W., Edinburgh
Elliot, W. M., Coldstream
Evans, John, and Mrs., Cambridge
Fielmann, Ernest, Westminster
Finnemore, H., and Mrs., London
Flanders, H., and Mrs., Cambridge
Foggan, George, and Mrs., Bedford
Forrest, J. K., Melbourne
Franklin, G. H., and Mrs., Broughton
Franklin, J. H., and Mrs., Manchester
Gadd, H. W., Exeter
Gibson, F. J., and Mrs., Wolverhampton
Gibson, Harvey R. J., Liverpool
Giles, W., Aberdeen
Goldby, F., Enfield Town
Green, J. Reynolds, Cambridge
Greenish, H. G., London
Grier, James, Manchester
Groves, R. H., Blandford
Hall, J. Godfrey, London
Hall, J., Peterborough
Harrington, J., London
Harrison, E. F., London
Hay, W. F., Aberdeen
Hearn, J., Hitchin
Henderson, J. H., Hitchin
Henry, J., and Mrs., Galashiels
Hewlett, R. Tanner, King's College, London

Hennings, C. R., London
Hobbs, A. E., Tunbridge Wells
Howie, W. L., and Mrs., London
Hughes, W. Griffiths, and Miss, Manchester
Humphreys, J., London
Idris, T. H. W., London
Isaacs, Mrs., Bath
Jennings, A. R., Cambridge
Johnstone, C. A., and Miss, Whaley Bridge
Jones, Ed., Hanley
Kane, James R., Southport
Kerr, Charles, J.P., Dundee
Kingzett, C. T., London
Kirkby, W., and Mrs., Manchester
Knott, P., and Mrs., Bolton
Latchmore, A., Hitchin
Leach, T. H. le Blois, Oxford
Lescher, T. E., London
Little, Miss, Whaley Bridge
Lynch, R. James, Cambridge
Macfarlane, M., and Mrs., Forfar, N.B.
Mackenzie, Donald, London
Mallett, T. J., and Mrs., Cambridge
Marsden, Prosper H., and Mrs., Liverpool
Martin, N. H., Newcastle-on-Tyne
Martindale, W. H., London
McGuffie, W. A., Brisbane
Missen, —, Cambridge
Moore, S. F., and Miss, Castle Cary
Morgan, H. B., Liverpool
Naylor, W. A., London
Neathercoat, E. T., Weybridge
Nicholl, I. W., Belfast
Ormerod, Miss
Parsons, W., Beckenham
Peck, E. S., and Mrs., Cambridge
Perrèdes, P. E., Hitchin
Pidd, A. J., and Miss, Manchester
Ponder, Constant, Cambridge
Purvis, J. E., Cambridge
Rideal, Eric K., Cambridge
Quant, E., and Mrs., Torquay
Ransom, F., and Mrs., Hitchin
Righton, J., Southport
Robinson, R. A., London
Russell, C. J., and Mrs., Newcastle-on-Tyne
Rutherford Hill, J., Edinburgh
Saunders, W. H., and Mrs., Liverpool
Senior, J., and Mrs., Eastbourne
Sharvill, F., Staines
Shears, J. C., Kingston-on-Thames
Smith, J., Dublin
Sommerville, D., King's College, London
Spencer-Turner, W., Wiltshire
Stephenson, T., Edinburgh
Sutton, F., Norwich
Taylor, S., and Mrs., Derby
Thomas, J. A., and Mrs., Cheltenham
Tocher, J. F., and Mrs., Peterhead
Umney, J. C., and Mrs., London
Wallis, T. E., and Mrs., Tunbridge Wells
Want, W. P., London
Watson, J. E. M., and Mrs., Norwich
Wells, W. F., and Miss Maud Wells, Dublin
West Knights, J., Cambridge
Whigham, R. L., London
White, Edmund, and Mrs., London
White, T. A., and Mrs., Southsea
Widdowson, T. S., London
Wild, J., Manchester
Wilson, W. P., Haddington
Wood, —, Cambridge
Woodhead, G. Sims, Cambridge
Woods, W. H., Plymouth
Woodcock, R. E., London
Woolcock, W. J. U., London
Woolley, S. W., London
Young, R. F., New Barnet

Business Changes.

Notes for this section must not be in the nature of advertisements, and they should be authenticated when sent to the Editor.

MR. T. A. D. KEEN has purchased the business of A. H. Bollom, pharmacist, High Street, Moreton-in-Marsh.

MR. E. KINGSLEY MONKS, chemist and druggist, has bought the business at 2 The Parade, Coldharbour Lane, London, S.E.

THE business of Mr. W. Heale in Battersea Park Road has been purchased by Mr. F. D. Finn, chemist and druggist, who was formerly with Mr. Long, of Clapton, N.E. (Corrected note.)

MR. F. LE C. CHANDLER, chemist and druggist, has purchased the branch pharmacy of Messrs. Hamer & Lewis at Central Buildings, 79 Chorley Road, Swinton, Manchester, and will take possession on August 8.

THE OLD-ESTABLISHED BUSINESS OF Messrs. Buckley & Co., chemists, Earl's Court Road, London, S.W., is closed, and Messrs. Lewis & Burrows, Ltd., of Earl's Court Road, S.W., have bought the prescription-books, etc.

RATTLESNAKE'S VENOM FOR CONSUMPTION.—From New York comes a report that Mr. H. G. Heffen, druggist, Rochester, N.Y., who was dying of consumption, has cured himself in six months by taking powders, fifty of which contained several drops of rattlesnake's venom.

Federation and Conference.

A MEETING of the Federation of Local Pharmaceutical Associations of Great Britain took place in the lecture theatre of the Botany School, Cambridge, on the afternoon of July 26. The meeting had been arranged for 2.30 P.M., but it was a quarter of an hour later when

Mr. EDMUND JONES (Hon. Secretary and Treasurer) stood up and announced that Mr. Currie (the Chairman) was unable to be present. Acting on doctor's orders, Mr. Currie is taking a holiday in the Highlands. He was sure that all those present would regret the cause of the Chairman's absence.

It was then agreed that Mr. J. C. Pentney (London) should take the chair. Beside him sat the Hon. Secretary and Mr. Herbert Antcliffe (Sheffield). There were also present: T. Fell Abraham (Liverpool), F. W. Ashton (London), H. Bagshaw (Oldham), F. W. Branson (Leeds), A. Sidney Campkin (Cambridge), T. Maltby Clague (Newcastle-on-Tyne), R. Feaver Clarke (Gravesend), W. B. Cowie (Edinburgh), W. Gowen Cross (Shrewsbury), A. J. Dey (Edinburgh), J. Evans (Cambridge), H. Finnemore (London), Geo. Foggan (Bedlington), F. J. Gibson (Wolverhampton), W. Giles (Aberdeen), E. F. Harrison (London), W. F. Hay (Aberdeen), J. Rutherford Hill (Edinburgh), A. E. Hobbs (Tunbridge Wells), A. E. Holden (London), T. H. W. Idris (London), Charles Kerr (Dundee), T. Edward Lescher (London), M. Macfarlane (Forfar), W. A. McGuffie (Brisbane), Donald Mackenzie (London), T. J. Mallett (Cambridge), Prosper H. Marsden (Liverpool), E. T. Neathercoat (Weybridge), W. A. H. Naylor (London), E. S. Peck (Cambridge), J. G. Pentney (London), F. Ransom (Hitchin), C. J. Russell (Newcastle-on-Tyne), W. H. Saunders (Liverpool), J. Smith (Dublin), Thomas Stephenson (Edinburgh), J. Arden Thomas (Cheltenham), J. F. Tocher (Peterhead), W. F. Wells (Dublin), R. L. Whigham (London).

The circular convening the meeting was taken as read, after which Mr. Jones read the minutes of the last annual meeting held at Newcastle-on-Tyne.

The CHAIRMAN then said that the subject they were to discuss was the advisability of forming a Trade Interests Section of the Conference. There are some matters which are outside the province of the Pharmaceutical Society, but which could be discussed by a trade interests section of the Conference. He gave as an example the proposed Dentists Bill, which, if enacted, would be most pernicious to the interests of those chemists who have devoted much time to tooth extraction and the fitting of dentures. The Chairman then called upon Mr. Thos. Stephenson, Chairman of the Edinburgh Chemists' Trade Association, to read a paper on the subject which has been prepared by the Association.

TRADE INTERESTS SECTION.

Mr. STEPHENSON made it clear before starting that he was not responsible for the paper, but having been recently appointed Chairman of the Edinburgh Chemists' Trade Association, he had been asked to read it at that meeting. The first part of the paper dealt with the scope and functions of the proposed section. Although it has been the practice to limit the scope of meetings of the Conference to scientific and technical subjects more or less closely related to pharmacy, there are many instances where questions of pharmaceutical politics and professional and trade interests have been treated. This was notably the case when the late Mr. Ince read his famous paper on "Pharmaceutical Ethics" at the Nottingham Conference in 1866, when he dealt with such matters as prices, substitution, imitations, civility to customers, long hours, business relations between pharmacists and with medical practitioners, trade extension, etc. The idea of a meeting in Conference week for the discussion of trade and professional matters other than those included within the sphere of the Conference proper took definite shape at the Edinburgh Conference in 1892, and the first meeting of the kind being held at Nottingham in 1893. A meeting has been held in Conference week every year since then, but unfortunately usually on the morning of Friday, when it is exceedingly difficult to

secure an attendance. Nevertheless, several most interesting meetings have been held, and much valuable work has been done during the last seventeen years. The paper proceeded to discuss the functions of the Pharmaceutical Societies of Great Britain and Ireland and of the British Pharmaceutical Conference, suggesting that without any serious addition to the expenses of the Conference a section for trade interests might be provided. The Section on Commercial Interests of the American Pharmaceutical Association was held out as an example, and its constitution outlined.

The Trade Interests Section would include all suitable subjects not properly within the sphere of what one may call the Scientific and Technical Sections of the Conference work. After enumerating the objects it was suggested other topics might be—the selling of stamped medicines in broken bulk; should the medicine stamp be abolished? the supplying of medicines to friendly societies, clubs, and institutions; amendment of the Sale of Food and Drugs Acts; the development of the commercial side of pharmacy, and the exemption of pharmacists from jury-service; advertising; and the pharmacist in public life.

THE DISCUSSION.

The CHAIRMAN then invited discussion, and for a time it seemed as though no one could be found to open the ball; but, for the purpose of promoting discussion

Mr. EDMUND JONES said the Federation has tried to carry out the objects for which it was founded, but has not been supported. Funds are necessary for carrying out the work, and these were not forthcoming. The Edinburgh scheme only provides for one meeting a year and this would be under the control of the Conference unless some arrangement could be made for another Executive to undertake this side of the work. Mr. Jones dwelt upon the need of some organisation to express the collective opinion of chemists in matters which are outside the function of the Pharmaceutical Society.

Mr. FINNEMORE inquired as to the number of members belonging to the Federation and what subscription is paid.

Mr. JONES said the number is estimated at 2,000. The subscription is paid by the associations, of which there were formerly 45, but now only from 30 to 35.

Mr. CLAGUE: What is the financial position at the moment?

Mr. JONES replied that the income of the Federation had been 15*l.* for the last few years and that there is now from 10*l.* to 12*l.* in hand. The subscription comes out at a trivial amount per member, and, considering the small amount, he was surprised that any association withdrew their support from the Federation.

Mr. E. F. HARRISON said that, speaking from what he called the "B.P.C." view, but for himself alone, he understood that the object of the present meeting had been to give a sample of what the Federation consider should be the scope of the proposed section. The present meeting, however, seems to be discussing whether or no such a section should be formed. It is easy to suggest subjects for such a section, but more difficult to get people to take them up. Personally, he would like to see the Conference deal with a wider scope of subjects than at present.

The CHAIRMAN said perhaps it would have been better to have discussed the other subjects on the agenda first.

Mr. J. RUTHERFORD HILL was afraid there had been a misapprehension as to the meeting. Mr. Currie understood that the idea was to show how the matter could be carried out. It is too much to ask an organisation that has failed to get up a meeting of the kind. The thing is to persuade the Conference not only as to the desirability but as to the practicability of the scheme. The real point of the Edinburgh Paper is that it would be wise to aim at nothing more than the appointment of a Committee or Conference to arrange a meeting at which can be dealt with those matters which the Conference cannot discuss.

Mr. R. A. ROBINSON thought that the proposed alteration of the objects of the Conference would meet the case. He was afraid, however, that the Conference could not command the support of learned associations and such men as welcomed the Conference that morning if too much commercial matter was introduced. There is not, in his opinion, room for the Federation as a separate organisation. The

Pharmaceutical Society now takes steps to learn the opinion of local associations. When any subject is before Parliament it is the opinion of the Pharmaceutical Society that is required by members of Parliament.

The CHAIRMAN said that the Executive of the Federation endorses every word that Mr. Robinson had said.

Mr. T. F. ABRAHAM said that the object should not be to encourage second or third-rate dentists, but rather the idea that the craft are first-rate pharmacists. What right have chemists to expect the sympathy of dentists and doctors when they poke their noses into dental and medical affairs? Mr. Abraham also expressed his views on dispensing by medical men, Parliamentary representation, and the public attitude towards the craft.

Mr. T. E. LESCHER thought that Thursday morning's discussion by the Conference would settle the matter.

Mr. CLAGUE said that all parties seemed to be arriving at the point of agreement. What sort of a live meeting could a dead horse give? The only thing is to give the Federation what they are very fond of in the North—"a beautiful funeral." The Federation should be wound up, and it should be left to themselves as members of the Conference to mould the section according to their desires. He had no doubt that Mr. Proctor's famous paper, which was rejected at York, would have been cheerfully accepted by the Conference at the present day.

The CHAIRMAN suggested that the matter could be left over till after the discussion of Mr. Umney's motion on Thursday.

Mr. CLAGUE added that it would not be fair to expect the Conference as a whole to discuss trade matters, as the members include others than pharmacists in business.

Mr. FOGGAN: Is this a Federation or a Conference meeting?

The CHAIRMAN: It seems to be a hybrid. (Laughter.)

Mr. E. S. PECK said that after his experience on the Local Committee he could see that it would have been much more difficult to have arranged the programme if there had been a trade section. He suggested that the basis of the subjects should be broadened on the lines of the International Congress of Pharmacy by the institution of a science and a practice section. He deprecated the use of the word "trade," which would be found a great obstacle in the way of arranging the local entertainments.

Mr. H. ANTCLIFFE said the Federation had been at the burial stage for some years. Will it meet again after Mr. Umney's motion has been discussed? Considering that the Pharmaceutical Society has now taken over the local associations, it would be better to wind up the Federation.

The CHAIRMAN said that after Mr. Umney's resolution had been carried the Executive of the Federation would meet to wind up the Federation.

Mr. KERR (Dundee) said it seemed that the meeting is in sympathy with the views of the Edinburgh Trade Association, and that therefore all that is needed to be done was to submit the paper to the Executive of the Conference for consideration and approval if possible.

Mr. JONES said he was glad to have drawn such good speeches by his opening of the discussion. If Mr. Umney's resolution is carried as a result of the discussion on Thursday that would be all that is required. The Federation could then meet and have a decent funeral.

Mr. W. F. HAY proposed that the Edinburgh views approved by the meeting be submitted to the Executive of the Conference for their favourable consideration.

Mr. J. RUTHERFORD HILL seconded this.

Mr. E. WHITE said that if the agenda had been reversed the Conference would have had a sample of what it was the Federation desired. He thought the feeling of the Conference would be against discussing some of the subjects enumerated on the agenda which are too much in a trade direction.

Mr. ROBINSON said he was not prepared to accept all the ideas embodied in the Edinburgh paper, which is what it would mean if they voted for the resolution.

The CHAIRMAN said he was of a similar opinion, but had to take the resolution as proposed and seconded.

Mr. TOCHER put forward an amendment that the meeting approves of the principle of dividing the Conference into two sections—scientific and practical sections—and that this

resolution be sent to the Executive of the Conference for consideration.

Mr. HAY and Mr. HILL withdrew the original motion, and Mr. Tocher's amendment having been seconded and adopted as a substantive motion was adopted.

Mr. ROBINSON proposed and Mr. FINEMORE seconded, a vote of thanks to the Chairman, and the meeting closed.

British Medical Association.

THE seventy-eighth annual meeting of this Association opened in London on July 22. The annual general meeting took place on July 22 in the Court of Common Council Chamber of the Guildhall, under the presidency of Sir William Whitla, Queen's College, Belfast, and this was followed by representative meetings on the following Saturday, Monday, and Tuesday. On the last-named day the new President, Mr. Henry T. Butlin, delivered his annual address at St. James's Hall, Great Portland Street, W. The meetings of the twenty-one sections of the Association were held at the London University, Imperial Institute, and the College of Science, South Kensington, this being the headquarters for the week. In connection with the meetings was held what is probably the

Largest Exhibition

of its kind that has ever been held in London. The fact that it is fifteen years since the Association's annual meeting was held in London doubtless accounts for the popularity of the exhibition. The exhibits are arranged in the Great Hall of the London University, the Western Hall, and the Jehanghier Hall, and include, besides chemical and pharmaceutical products, foods, surgical instruments, dressings, medical books, and electrical apparatus. We have picked out the exhibits which specially interest our readers, confining ourselves as much as possible to the novelties that are shown. The exhibition remains open till Friday evening at 6 P.M.

PRINCIPALLY PHARMACEUTICAL PREPARATIONS.

THE ANGLO-AMERICAN PHARMACEUTICAL CO., LTD., exhibit Huxley's Pharmaceutical Products, the chief of which are the syrup of the glycerophosphates in various combinations. Huxley's proteid food is a new product, containing 50 per cent. of assimilable proteids from milk and eggs. It is partly auto-digestive, owing to the presence of an active lactic ferment. Fermentactyl of the Pasteur Vaccine Co. is prominent on this stall.

ARMOUR & CO., LTD., in their display bear out their reputation as producers of all products in the category of organo-therapy, numerous show-jars of various animal organs and glands being included, as well as the finished preparations. Pepsin in scale and powder, glycerole of pepsin, beef juice, Vigoral, are big lines shown; but essence of pepsin, elixir of enzymes, and glyco-lectihin are being offered to the medical man for trial and approval. Suprarenalin (in powder form and in solution) and its preparations (ointment, suppositories, and inhalant) are presented for the visitors' inspection.

THE BAYER CO., LTD., have a well-arranged display of their synthetics. Aspirin, heroin, thyresol (methyl ester of santalol) are those to which the attention of medical visitors is being directed. Guaicose and iron-somatose make up the bulk of the display, while autan (the self-developing formaldehyde disinfectant) is on view.

BURROUGHS WELLCOME & CO. have their exhibit in duplicate, one on each side of the entrance to the main hall. First-aid outfits, medical equipments, and fine chemicals first strike the eye, while some fine kymographic tracings produced by pressor principles are conspicuous. Among these principles is pituitary (infundibular) extract. Medical visitors are also greatly interested in hypodermic "Tyramine," or *p*-hydroxy-phenyl-ethyl-amine, the first synthetic active principle of ergot, which bids fair to become as popular as "Ernutin," the physiologically standardised ergot preparation. "Vaporole" ammonium chloride inhaler, pocket hypodermic cases and syringes, compressed dressing are among the principal features of this beautifully arranged exhibit. Among the numerous serums and vaccines the use of normal horse-serum in hæmoptysis is a

new introduction. The display of fine chemicals is, as usual, exceedingly interesting. "Kepler" products and "Hazeline" are also shown.

THOMAS CHRISTY & Co. devote much of their space to Glyco-Thymoline, a new hospital size ($\frac{1}{2}$ gal.) being on show. Glyco-Heroin (Smith), lysoform, and "Christia" surgical tissue and accouchement sheets are other important adjuncts, while the "Tymonite" radium watch is a scientific novelty which is attracting much attention, the hands of which are brilliantly luminous at night. Among the numerous other lines shown we may mention Sil Mer Zincs—soluble medicated bougies.

COOPER, SON & Co., LTD., include among the many specialities they display Anesthol (a menthyl salicylate and menthol preparation), Lactesia (cream of magnesia), and dental Lactesia, Liquisal (a quinine salicylate preparation), sinapine tissue, ovicones (glycerin, and zinc oxide), and "Globena" pastils.

EVANS SONS LESCHER & WEBB, LTD., display dry filled capsules and "Membroids" in quantity. The medical profession are also being imbued with the advantages of "Algiron" in chlorosis and "Thymecal," a deodorant-antiseptic for internal and external use. "Cascaromat," a concentrated preparation of cascara sagrada, and "Purgoids" are included in the numerous galenicals and pharmaceutical products shown, as also "Curdlettes" for lactic-acid bacilli treatment.

FAIRCHILD BROS. & FOSTER have a good display of their digestive ferments and nutrient products. Panopepton, Pepsencia, and Peptonogenic milk-powder occupy the greater portion of the well-arranged stand. "Zymine" powder and "Zymine" peptonising tubes are shown, as well as various "Pepule" digestive products. Other noteworthy preparations are Holadin, which contains tryptic ferments, lecithin elixir and glycerole, and "Enzymol," a proteolytic preparation for external use in sloughs, granulation, etc.

C. J. HEWLETT & SON, LTD., are exhibiting their standard liquors, mixtures, and galenicals along with a bright display of tablets and sugar-coated pills. The registered designs of atomisers and sprays (Nebulique, Cloudique, Nasalique, Gradulique) already referred to in these columns can be seen. Among the new surgical instruments is a perineal crutch and a new anæsthetic inhaler (similar to Glover's inhaler without an air-bag), both suggested by Dr. Tanner, and also an improved cervix cupper devised by Dr. A. Duke. Hypodermic syringes and midwifery bags are other lines specialised upon. "Evapogens" (evaporating skin lotions), preparations of Laxans (phenol-phthalein), and mist. heroin et thymi co. (Hewlett) are other special features.

THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LTD., give prominence to digalen and thiolcol, which were referred to in this Journal at the time of their introduction. Secacornin is a new product used in gynaecology and obstetrics. It is a standardised sterile solution of the ergot principles, and is claimed to be four times the strength of ext. ergotæ liq. B.P. It is put up in bottles of 10 c.c. and 20 c.c. and ampoules of 1 c.c. Thigenol (Roche) is another new product, which has proved serviceable in sulphur therapeutics as a remedy for skin diseases and in gynaecology. Of alkaloids this firm make a speciality of caffeine, cocaine, strychnine, and pilocarpine.

ICHTHYOL GESELLSCHAFT (Cordes Hermann & Co.) are showing their soluble organic sulphur preparations, "Ichthyol" (ammonium sulpho-ichthyolate) and "Ichthyolate" (sodium sulpho-ichthyolate) in original tins. Ichthoform, ichthyol plaster, and ichthyol formulary are also to be seen.

KNOLL & Co. show fine chemicals, these including anthrasol, bromural, iodival, santyl, styptol, and digipuratum, the last-named being a standardised preparation of digitalis.

WILLIAM MARTINDALE naturally gives pride of place to the new (fourteenth) edition of Martindale and Westcott's "Extra Pharmacopœia," but the exhibit, like the book, is encyclopædic in its comprehensive range. Among the newer preparations are agar-agar, in a convenient form for treating constipation, capsungs (cone-pointed capsules of ointments), cinnamic aldehyde capsules for the treatment

of malignant disease, ung. thorii oleas for eczema, and lecithin emulsion and elixir.

E. MERCK has a fine exhibit of alkaloids, glucosides, and other pharmaceutical chemicals, big plates of crystal cocaine and large cubes of potassium iodide compelling attention. Of synthetics shown, veronal and tropacocaine occupy the chief place. Perhydrol (neutral hydrogen peroxide, 100 vols.), magnesium-perhydrol, and zinc perhydrol are the antiseptics on view.

OPPENHEIMER, SON & Co. have a comprehensive display with many conspicuous show-jars of their special galenical preparations, pulverettes, and palatinoids. There is also a fine collection of medals gained by the firm in recent years. Of the newer preparations we note "Grindeline" for asthma, "Lactigen," a fluid culture of the Bulgarian lactic-acid bacillus, for making soured milk, and "Ozoline," a preparation which liberates oxygen in contact with pus, and is thus useful for clearing granulating surfaces. Sea-water plasma is being boomed for subcutaneous injection in digestive disorders and skin troubles. The sea-water is collected 200 miles from land under strict aseptic conditions, and then rendered isotonic with human blood. The uses of the "Ox-inhalator" is also being demonstrated.

PARKE, DAVIS & Co.'s exhibit occupies a conspicuous position at the end of the central aisle. Hypodermic syringes and medicine cases are particularly prominent. Of the former, the "Glasmel" is of an improved all-glass type, while the "Stowaway," with syringe, needles, and hypodermic tablets complete, packs away into a metal container of the size and shape of a flat cigarette-case. A splendid variety of medicine cases, for home or foreign use, including expeditions in tropical or cold climates, are shown, while of animal products, pituitrin and adrenalin take foremost place; but sera, tuberculin, and typhoid tests and "Lactone" tablets remind one of other important biological products emanating from the firm's laboratories. The ever-popular euthymol preparations are shown, while, among things pharmaceutical, egg and other emulsions, standardised fluid extracts, and inhalants are the chief among the products presided over by Mr. Harry Hickey and his confrères.

CHAS. H. PHILLIPS CHEMICAL Co. display "Milk of Magnesia" and "Phospho-Muriate of Quinine." Particular attention is being paid to the latter tonic preparation, which is an alcohol-free aromatic syrup, containing free and combined phosphoric acid, potassium, iron, calcium, and magnesium, with quinine muriate ($\frac{1}{4}$ grain) and strychnine ($\frac{1}{125}$ grain) in each dram. The virtues of suspended magnesium hydroxide as compared with fluid magnesia are also dealt with at length by Mr. Lionel H. Cooper and his helpers.

REYNOLDS & BRANSON, LTD., have a comprehensive display of pharmaceutical products, including physiologically standardised preparations. Among surgical appliances the form of apparatus devised by Dr. Reginald Morton for the production of pencils (round or square, and of various diameters) of solid carbon dioxide is being given special prominence. A Chrometer has been added recently to the urine-testing series. It is used for determining creatinin and indican, and can be used for registering the correct colour value of any transparent solution, such as galenicals. Another useful novelty consists of a test-tube and bottle-holder in the form of a square metal frame with four flat steel springs.

THE SACCHARIN CORPORATION, LTD., show novocain and pergenol. The latter is a solid compound which dissolves immediately in water to make a neutral solution of hydrogen peroxide and boric acid. Its chief use is in dental surgery for cleansing and disinfecting the field of operation. It is also useful for sterilising instruments, syringes, and needles previous to the injection of novocain. The Novocain department at the new address, 10 Arthur Street West, London, E.C., will furnish surgical and dental literature.

THE SOCIETY OF CHEMICAL INDUSTRY in Bâle and the ROBORAT Co., LTD., divide a stand between their products. The former are showing "Phytin," a natural vegetable phosphorus salt, and Salen, a salicylic acid for the local treatment of rheumatism, etc. The latter firm are exhibiting "Quantitest" and "Qualitest" cases for urine analysis;

also "Quantitest" hæmoglobinometer for blood counts, Weiss "Syphilis Diagnosticum" for the Wasserman reaction, and "Tuberculosis Diagnosticum" for the ocular and cutaneous tuberculosis test.

A. WULFING & Co. exhibit Sanatogen, Formamint, and Albulactin. The last-named is a milk albumin preparation to add to diluted cow's milk to transform it into the equivalent of human milk. Diagrams forcibly illustrating this are shown in various parts of the exhibition and in the exhibition catalogue.

WYLEYS, LTD., have a good display of pharmaceutical products and galenicals, pills and tablets looming up largely. Wylettes are hermetically sealed glass capsules containing various sterilised solutions ready for immediate injection. Tropels, cachets, and emulsions aid in forming an attractive and informative exhibit.

A. & M. ZIMMERMANN's stand is replete with modern therapeutical agents. Schering's preparations on show include synthetic camphor, medinal, urotropin, sublatin, β -eucaine lactate and hydrochloride, hormonal (a new permanent cure for chronic constipation), ferment diagnosticum (for the diagnosis of cancer of the stomach), and dianol (lactic-acid preparation for rhino-laryngological practice). Of Kalle & Co.'s pharmaceutical preparations prominence is given to dormiol (hypnotic), formicin (antiseptic), Biebricher Scarlet R medicinal and amidoazotoul medicinal. Sperminum (Poehl) is included in the display of Professor A. von Poehl's organo-therapeutic preparations. The peptic and other products, H. Finzelberg's Nachfolger, Andernach-on-Rhine, are also shown.

CHAS. ZIMMERMANN & Co. have a full range of fine chemicals and remedies for which they are agents, these including a number of new products, the advantages of which are placed before the profession by Mr. O. A. Elias. Among them is Xallineform obtained from *Strophanthus gratus*, a cardiac tonic and diuretic. Amidoazotoul, or scarlet red, is used for the encouragement of skin formation on sores. We understand that the demand for lysol, of which an adequate display is made at this stand, has largely increased; to advertise the product, a "four hours' temperature chart" is given away to nurses on application. The chart gives full directions for obtaining the best results from lysol. A toilet soap containing 10 per cent. of lysol has also been introduced. Among other products, Messrs. Zimmermann show acidol, acidol pepsin tablets, cocaine and salts, ottoform (an iodoform substitute), and A.G.F.A. preparations.

SURGICAL EXHIBITS.

ALLEN & HANBURY, LTD., are showing a choice selection of operating tables, including portable ones. An operating table in phosphor-bronze built to order for the University College Hospital is attracting much attention, as also an invalid lifter and transporter of elaborate construction. There is a good general display of hospital furniture. Among the more special lines are a simplified apparatus for producing pencils of solid carbon dioxide, and the "Macnair" automatic water-steriliser, a lock-up pattern, simple and effective in working, and producing a palatable and pure water-supply. Another special apparatus is Paterson's electrically heated saline-infusion apparatus, which gives a supply of saline solution at a constant temperature. Sterilisers, inhalers, the A. & H. adjustable back-rest, and a host of the latest models of surgical instruments are included on the two stands occupied by the firm, who are the actual makers of the goods displayed thereon. W. H. BAILEY & SON, LTD., show operation-theatre furniture and a special consulting-room couch. HARRY BROOK shows artificial restorations of the face. DOWN BROS., LTD., have two stands, one devoted to operating tables, autoclaves, steam sterilisers, and other hospital fittings, and the other to a big display of surgical instruments. S. MAW, SON & SONS have a couple of bright exhibits. The larger one displays aseptic furniture, high-pressure sterilisers, Beulah dressing drums, an improved standard lamp for eye, ear, and throat work, water-driven and electrically driven centrifuges, self-regulating incubators, and various other apparatus. The Lee-Percival oxygen generator is also shown, the apparatus automatically giving oxygen of 98 to 100 per cent. purity, instan-

aneously, under perfect control, and without the use of a gasbag. A complete outfit for the production of solid carbon dioxide pencils is exhibited, as also the recently improved Herring's steriliser for sterilising and lubricating catheters. The new forms of catheters suggested by Mr. H. T. Herring are included among the surgical-instrument display opposite. One form is solid and grooved, while another is solid for two-thirds of its length, both forms facilitating cleansing, sterilisation, and lubrication. The instrument display is replete with new and improved forms of instruments of prime interest to the surgeon. JOHN J. GRIFFIN & SONS devote their whole space to showing the Harcourt chloroform inhaler, an apparatus of great interest in view of the recent report of the Commission on anaesthetics. HAWKLEY & SON's exhibit deals largely with observations on the blood. These include blood-pressure apparatus, such as sphygmomanometers of Riva-Rocci, Sir Lauder Brunton, and others, instruments for blood-diagnosis, stethoscopes, milk-humanisers, forceps; appliances for the deaf are also shown. CHAS. HEARSON & Co. specialise in biological incubators, centrifugal machines, and combined centrifuges and electrical shakers. C. A. HOFFECKE, LTD., show orthopaedic appliances, with skiagrams illustrating the effects of the splints on fractures. HOSPITAL AND GENERAL CONTRACTS CO., LTD., display "Porcelite" enamel hospital furniture, and other hospital fittings. Among the novelties exhibited are Hodgson's new ether anaesthetic apparatus, a new St. George's Hospital pattern of Witcux drum, Astra hypodermic syringes, and collapsible self-heating douches. S. LEE is demonstrating his "Antiseptic-air Producer," in which a current of steam ejected under slight pressure from a boiler carried along with it the medicament to be inhaled. MRS. MORISON exhibits a collection of surgical and maternity corsets and belts; also a "Child's bodice-belt," or corset, and belts for boys, from which the clothing can be suspended, and which enables them to dispense with braces. FRANK A. ROGERS displays a large number of his standard sprays, atomisers, and inhalers. The newer lines include all glass sprays, and the "Nasule" spray for spraying solutions direct from sterilised glass capsules (Nasules). Other exhibits are Muscatol (insect-repeller), and a new idea in medical attaché cases fitted for specialists, general practitioners, or patients' use. G. H. ZEAL is displaying a large variety of clinical thermometers, with or without magnifying fronts, and of varying rapidity, the majority being of the "Repello" (not requiring shaking down) type. The modern aseptic clinical thermometer is represented, as well as veterinary clinicals and safety clinical thermometer cases.

DRESSINGS AND DISINFECTANTS.

JOHN BELL & CROYDEN, LTD., devote their exhibit to sterilised dressings, a model of the sterilising rooms erected at the company's premises being shown. Here they have installed in two specially designed chambers Manlove & Alliott's latest type of high-pressure autoclave, so that the inlet is in one room and the outlet in another—i.e., pure and impure rooms. The advantages of the patent syphons of the HYGIENIC SYPHON CO. (1910) LTD., have already been demonstrated in the C. & D., and at the time of our visit the Company (which is under the auspices of John Bell & Croyden, Ltd.) were giving demonstrations to medical men.

THE LIVERPOOL LINT CO. show a large variety of lint, cotton-wools and tow, bandages, compressed dressings, gauze tissues, etc. Vulnoplast has the pride of place, its advantages as a self-adhesive plaster having been realised since its introduction two years ago. A series of severe tests have been undertaken by St. Bartholomew's Hospital with "Impermiettes," the sheetings having been sterilised and boiled at very high temperatures, and it is interesting to know that "Impermiette" survived the ordeal without injuring the fabric.

FASSETT & JOHNSON have a composite exhibit representative of their various agencies. A full range of Seabury and Johnson's gauzes, cotton-wool, lint, ligatures and plasters are well displayed, as also Argyrol and Ovoferin, the products of the A. C. Barnes Co. Plaster casts illustrate the uses of Thermogene, the Thermogene Co.'s prepared dressing. Californian Fig Syrup and Emol-Kelet

are also to the fore on this conspicuous stand opposite the main entrance. "Olympic" corn dots are worth inspecting by any pharmacist visitor.

JEXES' SANITARY COMPOUNDS CO., LTD., show their many adaptations of cyllin. The Company would like to emphasise the point to retailers, that when cyllin is asked for by the public it is the disinfectant that is required, and not the medical cyllin, which they say is frequently supplied. Cyllin pastilles, a new antiseptic throat-lozenge, containing one-tenth of a minim and suitably flavoured, is the latest combination. The other preparations are well known, but attention may be called to lano-cyllin for use in eczema, pruritus, and other inflammatory conditions of the skin.

Maxsol, the name being derived from maximum of solubility, is a new germicide and liquid disinfectant introduced by MAXSOL, LTD. It comes to us from the Continent, where it has found favour among medical men. Maxsol contains the three isomeric cresols in a high degree, and is claimed to be a more powerful germicide than phenol. Other forms of this proprietary are a toilet cream and vaseline, a soap and antiseptic mouth-wash.

THE "SANITAS" COMPANY, LTD., have a very effective exhibit of all their preparations, their latest development being a series of floor-polishes containing a percentage of Sanitas, which should find a ready sale. The Company direct special attention to the fact that they are makers of hydrogen peroxide of a specially stable character. Fumigators, sulphur candles, preparations and appliances for the use of formaldehyde as a disinfecting agent are also displayed.

FOODS AND DRINKS.

In this department there are representative displays of Bovril, Virol, Lemco, and Oxo. CALLARD & Co the food specialists, show Casoid diabetic bread, which is starchless, sugarless and palatable. Casoid, according to analysis, contains 64.56 per cent. of albuminoids, 32.70 per cent. of fat, 1.21 per cent. mineral matter, and 1.53 per cent. of moisture.

G. VAN ABBOTT & SONS show their diabetic and obesity preparations. A pamphlet of dietary tables and cookery receipts issued by the firm lucidly shows what diabetically disposed people may or may not eat.

L. HANNEMANN & SON exhibit antacid and laxative medicated biscuits adapted for ladies and children who cannot take the usual aperients. INTERNATIONAL PLASMON, LTD., call attention to "Plasmon" as a phosphatic nerve and brain food. Full lines of their numerous "Plasmon" preparations are included in a bright exhibit. THE MIOL MANUFACTURING CO., LTD., exhibit Miol, which contains maltose, diastase, and cream olive oil, with glycerophosphates and iodine in organic combination. THE PROTENE CO., LTD., are exhibiting their milk proteid and its preparations in biscuit and bread form, also diabetic specialties. Protene "Bios" biscuits are easily digestible and slightly laxative. They are specially made for infants, and contain their carbohydrate in soluble form. MELLIN'S FOOD, LTD., have a display of their dietetic preparations, feeding bottles, and baby balances. MENLEY & JAMES, LTD., have a neat display of their uncoagulated wheaten proteid glidine. The organic combinations of glidine with iodine, bromine, mercury, arsenic, and iron are also shown. SAVORY & MOORE'S main display consists chiefly of infants' food, peptonised products (milk, cocoa, coffee, and chocolate), "Molfa" soap, and valveless feeders. Among the novelties exhibited are a new chemical food, or "Fructole," of red bone-marrow and glycerophosphates; "Savore," a nutrient invalid food; "Aperione," a synthetic purgative compound; and "Magnesian Compound," containing freshly precipitated magnesium hydroxide combined with suitable carminatives. A. WANDER, LTD., have a pretty display, including ovaline, dry (crystalline) malt extract, and "Formitrol" pastilles. The first-named combination of malt extract, milk, eggs, and cocoa is finding great favour with the medical visitors, owing to its digestive and nutrient properties. THE APOLLINARIS Water is so well known that it is almost impossible to say anything new of it. Mr. A. R. Arrowsmith, who has charge of the exhibit, specially directed our attention to the large stone bottles (costing 6d. each), and containing 40 per cent. more than an ordinary syphon. The earthenware preserves the water in cool and sparkling condition, and is thus eminently adapted for

long dinners and parties. The stone bottles can be ordered by chemists and druggists at the same time as the ordinary bottles, mixed quantities of 25 being allowed. A full display of Apenta, Johannis water, and Johannis lithia is also shown. FINDLATER, MACKIE, TODD & CO., LTD., have a nicely displayed exhibit of foreign natural mineral waters, chief prominence being given to the St. Raphael Tonic Wine (a pure natural wine of the Burgundy type) prescribed in all forms of anæmia. It has had a great vogue in Paris hospitals for many years. Among other waters shown are Carabana (aperient), Ems, Martigny, Pougues, Schlangenbad, Schwalbach and Taunus, the last-named being a sparkling mineral table-water, a favourite of the late Queen Victoria.

INGRAM & ROYLE, LTD., have an exhaustive exhibit of the mineral waters for which they are agents. These now include Tansan, the new Japanese water, which has already been referred to in this journal. Vichy, Carlsbad, and other favourably known waters are shown in nicely arranged groups. BRAND & Co. exhibit their specialties for invalids.

MISCELLANEOUS.

AERATORS, LTD., show "Prana" carbon dioxide snow apparatus, which has been recently explained in THE CHEMIST AND DRUGGIST, and "Prana" CO₂ sparkling bath apparatus. An ingenious model illustrates the *modus operandi* of the latter. THE BERKEFELD FILTER CO., LTD., have a full line of filters, the centre of the stand being occupied with the "Berkefeld," an aseptic irrigator for supplying sterilised water of regulated temperature for use in surgical operations. An abundant supply of sterile water, at a temperature and pressure adjustable for any surgical requirements, can be obtained in a few minutes by this apparatus, which can be worked either in connection with the hot or cold supply, or with steam, where this is available, in conjunction with the cold water supply.

THE BUZZELL-FLANDERS Co. exhibit Flander's sterilised standard catgut in sealed glass tubes. Plain, chromic, and "Bartlett method" catgut are available, the latter being preserved in iodised solution. The inventors claim that the gut never becomes brittle.

THE HYGIENIC COMPANY, LTD., give a practical demonstration of the prolonged aeration obtainable by using their patented "Zana" aerating cushions. They also show "Hygol" bath essences. THE DENVER CHEMICAL MANUFACTURING CO., LTD., exhibit their hygroscopic, antiseptic "Antiphlogistine," and are distributing charts and aluminium spatulas.

PRICE'S PATENT CANDLE CO., LTD., display night-lights, candles, calorettes (substitutes for spirit lamps), and toilet soaps. Price's "glycerin," sanitary glycerin soaps, paraffinum molle, paraffin ointment, are products of pharmaceutical interest on view.

Trade Tabs.

CEYLON CAMPHOR EXPORTS.—Last year the exports were 9 cwt. only valued at 1,995 rs., against 15 cwt. valued at 3,075 rs. in 1908.

CHICLE GUM.—The exports from Guatemala during 1908 were valued at 11,942., against 13,710. in 1907 and 10,658. in 1906. Chicle has not yet begun to be cultivated in Guatemala, the trees being exploited as they grow wild by the natives, who sell to dealers on the coast in Belize and elsewhere.

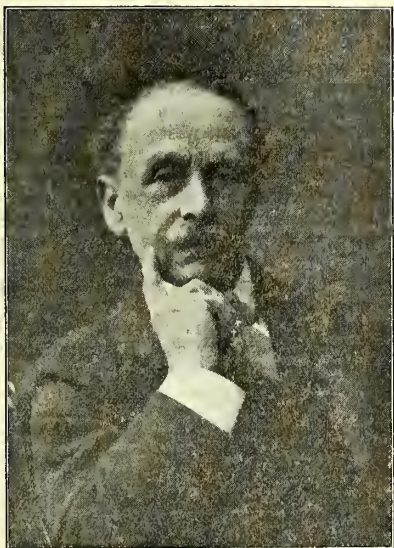
INDO-CHINA CARDAMOMS.—The exports of cardamoms from French Indo-China during 1908 amounted to 406 tons (50,119.), against 251 tons (25,269.) in 1907 and 229 tons (20,556.) in 1906. They were mainly exported to Hong-Kong, and are largely used in Chinese medicine. Best qualities come from Cambodia, and inferior qualities are found in the Laos country and the north of Tonkin.

CAUSTIC SODA IN CRETE.—The total import of caustic soda into Crete was less during 1908, owing to the rise in the price of olive oil, which consequently greatly reduced the output of soap. In spite of this, however, the British share of this import shows an increase. Soda is sold in Crete in liquid form in casks of 400 kilos. (8 cwt.), and also solid, in casks of 300 kilos. (6 cwt.). Belgian firms are also competing successfully. Bicarbonate of soda is imported chiefly from Germany and the United Kingdom.

Success and Its Elements.

When Our Town Traveller visited the new Vibrona Laboratories in Thane Road, Holloway, last January, he promised to return again for some pictures of it; and now that the place is full of life he meant to redeem his promise, but has been anticipated in a handsome manner. It was over a cup of tea in Mr. Fred. W. Fletcher's library-like room looking on Thane Road that this conversation took place.

"I THINK, Mr. Fletcher," said O.T.T., "a series of photographs showing the interior of this splendid building would interest *C. & D.* readers."



MR. F. W. FLETCHER, F.C.S.

"I have anticipated your suggestion," replied Mr. Fletcher, as he handed me a proof of a descriptive and illustrated *brochure* which is inserted in this Summer Number. "Every one of the twelve thousand who receive the Number will find one of these in it."

"Ah, that's better than I could do. I suppose this fine place has justified your expectations?"

"More than even I thought possible," Mr. Fletcher replied. "We are able to get through twice the amount of work in half the time, to say nothing of the increased comfort."

"You believe in studying the well-being of your staff?" I queried.

"Absolutely. I think work should be carried on under the healthiest, brightest, and most pleasant conditions compatible with efficiency and discipline. I like it for myself, and see no reason why our staff should not have the same."

"What are your regulations as to hours of business and holidays?" I inquired.

"The Manufacturing Section opens at 8, and closes at 6; the office hours are from 9 till 5; on Saturdays we close at 1 o'clock. The heads of departments and all the office staff have three weeks' vacation in the summer, the other employes a long week, in addition, of course, to the usual holidays."

"What other factors have made for your business success?" was my next question.

"First and foremost, hard work. Business-building and money-making are by no means synonymous. When you have built the business it may go on growing, but a business which is intended to endure cannot be jerry-built. The foundations must be deep and solid, and the superstructure cannot be run up in a pelting hurry by means of sweated labour. That is why I consider hard work, through long, laborious days, to be the first condition of success. The next essential is concentration. *Non omnia possumus omnes* is a motto which every young

business man should lay to heart. Another, and in my opinion one of the most vital essentials, is attention to details. Detail is the mainspring of business, and the drudgery of mastering it at all points must be gone through if you want to get on. I don't mean that a man must use up his time in personally attending to all details, but he must know what they are, and retain a firm grip of the performance of them, and be able at any moment to put his finger on a weak spot in the organism. This he could not do without the knowledge that comes from personal contact. Another essential is originality. I mean by that getting out of the ruck, and into your own line. When I commenced business as a manufacturer of chemical and pharmaceutical products I was only twenty-four. I soon found that to make something of finer quality or more attractive form than others was only part of the battle—"

"So you gave the world Fletcher's concentrated liquors and Fletcher's hydrobromates," I remarked. "When was 'Vibrona' born?"

"That was in 1895," said Mr. Fletcher. "The idea of 'Vibrona' was to get the soluble constituents of cinchona-bark in a form like Fletcher's hydrobromate syrups, which would not cause cinchonism, but would be indisputably restorative. After an incubation period of about twelve months in the laboratory, 'Vibrona, the Ideal Tonic Wine,' emerged, and—*si monumentum quaris, circumspice!*"

With that there seemed nothing more to say, for the Laboratories are eloquent of success, and, what is also notable, they are ideal in equipment for carrying out the varied series of galenical operations involved in the making and analytical control of Fletcher products.

Scientific Progress.

Temperatures under this heading are on the Centigrade scale.

A Pseudocinchona Alkaloid.—According to Fourneau ("Comptes Rendus," April 1910), *Pseudocinchona africana* yields an alkaloid which has the same empirical composition as yohimbine. It also yields, when heated with alkalis, an acid, $C_{10}H_{11}N_2O_5$, identical with that similarly obtained from yohimbine, so that it is possible that the two alkaloids may be identical.

Corydalis Alkaloids.—Heye ("Apoth. Zeit.," 1910, 5) has examined the alkaloids of *Corydalis solida*. The crude alkaloids were purified by conversion into their hydrobromides. From these the author has isolated the base protopine, melting at 207°, and two others melting at 145° and 132° respectively. Protopine, on account of its slight solubility in ether, can be easily separated from the other alkaloids and transformed into its hydrochloride, from which the alkaloid is again set free when it can be obtained in the pure state, melting at 207°. The other bases have not yet been further investigated.

Assay of Kola-nuts.—Desvignes ("Jour. de Pharm.," 1910, ii., 20) proposes the following as an accurate method for the assay of kola-nuts: 15 grams of dried and powdered nuts are well mixed with 10 grams of MgO ; water is added to form a paste, which is dried at 20° to 22° in a thin layer. The mass, well broken up, is placed in contact with 30 c.c. of chloroform for three to four hours, which is then run off, and the exhaustion continued with successive portions of 20 c.c. of chloroform until the drug is exhausted, which will require 100 to 120 c.c. of chloroform. The solvent is evaporated in a tared flask and the caffeine weighed. If the mixture of kola and magnesia be quite dry, the caffeine will be pure and white.

An Alkaloidal Synthesis.—Pictet and Finkelstein ("Berichte," xlii., 1979) have succeeded in synthesising the alkaloid laudanosine (methyl-tetra-hydropapaverine) by the interaction of homoveratrylamine and homoveratric acid. The latter body is prepared from eugenol by the method elaborated by Tiemann and Matsmoto. The former body is prepared by (1) condensing methyl-vanillin with acetic anhydride; (2) reducing the dimethyl-caffeic acid formed with sodium amalgam; (3) converting the reduced acid into its amide by the successive actions of phosphorus pentachloride and ammonia; (4) treating the resulting amide with sodium hypobromite, which gives homoveratrylamine. This body is converted into homoveratrylamine hydrochloride, and the resulting dihydropapaverine methylated into racemic laudanosine.

Illustrations from Life : The Ideas of some Chemists and Druggists about Advertising.

By F. A. Degen.

VARIED and interesting are the reasons why some chemists and druggists do not advertise and why others who do, prefer to prepare their own advertising matter. All instances herein named are, as the novelist would say, taken from real life. Because of this they are instructive and valuable to the readers of this journal.

"I am in a small way of business," writes one man, "therefore I cannot afford to advertise."

If the writer of the above pursues his present policy there is every reason why he should remain a little man. Who is going to search for him and find out that he keeps certain goods that can be recommended for various reasons? The buying public have no time to embark on voyages of discovery, they want the merit of articles brought home to them. The man who does this gets the trade and prospers, while the other stays always in a small way of business. The reasons for this are obvious. The only people who can be excused for sniffing at the value of advertising are actors, novelists, and the like, because they obtain publicity in other than the advertising-sheets of newspapers. They do not pay for this, and it is generally conceded that what costs nothing is regarded as having but little value.

"Nobody," writes one man, "knows as much about my business as I do myself; therefore nobody can advertise it as well, as truthfully as I can. In fact, I have never allowed an outsider to write a word about my preparations, yet, notwithstanding the personal consideration I give this matter, my advertising does not pay. I enclose some of my counter bills, etc."

Truth is a necessary element in advertising. One of the principal reasons for advertising is to tell the public the truth; still there are different ways of telling it. Even truth needs proper dressing, to appear attractive, but, as my correspondent had never tried the effects of having his publicity work prepared by a publicity specialist, how can he know what can be done by means of employing one? He admits himself a failure as far as advertising is concerned; but this does not prove that advertising—when done systematically, tactfully, and well—does not pay. Until one has tested the value of a plan one cannot pronounce a final judgment. The counter bills sent with the above letter were of the kind dear to the man who knows his business thoroughly and is determined that the public shall be instructed in its mysteries as well. The bills were dry, technical, formal—printed without regard to harmony of design and without evidence of the wish to attract. Needless to say they were not read—hence the impression gathered by this chemist that advertising was a waste of money.

A manufacturer says: "I consider advertising such an important part of my business that I write all my 'copy' myself—I cannot trust anyone else to do this."

Surely this is a shortsighted policy. The man who knows enough to run a large business ought to apply his talents and time to managing and developing his own end of the line, leaving specialists to attend to other departments, always superintending details himself. This same man had a chemist to compound his proprietaries, expert packers to pack them, experienced salesmen to sell them. Why should he not have employed a specialist to prepare his advertising? This would only have been consistent, for, as he himself admitted, advertising was the most important part of his business and therefore needed the experienced services of one whose entire time and energies were devoted to that particular kind of work. Evidently this man's advertising paid him, but might he not have received even more satisfactory returns if he had imitated the methods of the largest and most successful firms? There is something to be said in favour of following in the footsteps of those who have arrived at success.

Another writes: "On consideration I shall not require your services. Last year's experience was too disastrous, for, although I prepared my own advertising and attended to every detail myself, the result did not pay my printer's bill. In future the quality of my goods must recommend them without recourse to printer's ink."

This man's experience was not unique, but instead of being disgusted it would have been more profitable had he investigated the cause of his failure and steered his future course accordingly. All advertising does not pay—nor do all business ventures pay—it is the way in which they are conducted which make them profitable or the reverse. The above case is a frequent one. The reasons for failure are easily discovered. Chemists and druggists are extremely well-educated men; the necessary training which they must receive to fit them for their responsibilities ensures this; but this does not imply that they know how to advertise. Publicity is a many-sided and difficult profession. It takes years of study and experience to master its details. Because a man is a fine chemist it does not mean that he can write about his preparations so convincingly that he can make people buy—to do this is another matter requiring a different order of ability. To illustrate this point, a doctor recently told me of a surgeon who had become so famous for performing a certain operation that patients visited him from all parts of the earth.

"Is he really the best man for removing this particular trouble?" I inquired.

The doctor smiled. "He is clever enough," he said, "but there are others equally so. His popularity is the outcome of very subtle advertising."

"But no reputable surgeon advertises," I ventured, innocently.

"Well, you ought to appreciate this, so I'll explain," replied the doctor. "It appears this surgeon has a brother—also a clever fellow—a journalist, who writes articles describing his brother's operations. These papers are published in a journal of international repute, and, while written with technical correctness, they are done in such a lively, convincing style that even doctors reading these articles become possessed with the idea that there is only one man who can perform this operation successfully, and they will allow their patients to have no other. As this surgeon is clever and agreeable, his fame has spread until he is now considered second to none in his particular work."

The lessons to be derived from the above true instances are too obvious to require further comment.

PURE-FOOD STANDARDS FOR AUSTRALIA.—A conference was held in Sydney towards the end of May at which, with the exception of Western Australia, all the Australian States were represented by their chief health officers and other delegates. The Federal Government was represented by Dr. W. Perrin Norris, Director of Quarantine, and Mr. W. P. Wilkinson, federal analyst. New South Wales was represented by Dr. J. Ashburton Thompson, chief medical officer, and Mr. W. M. Hamlet, Government analyst, and by Mr. J. D. Fisher as commercial representative. The other States were also represented. Mr. G. H. King, Secretary of the New South Wales Board of Health, acted as Secretary of the conference. According to the terms of reference the business of the conference was an attempt to bring into accord by compromise or otherwise food-standards which at the date of meeting had the force of law in any State, not the setting up of new standards. On June 17 the resolutions passed by the conference were forwarded to the Premiers of the various States. The resolutions traverse practically the whole of the present regulations, including drugs, but so far nothing definite has transpired in regard to these. The resolutions at present have no legal force, but, according to the Constitution of the Commonwealth, the Federal Parliament, if so requested by any two States, may pass an Act of Parliament which will then have the force of law when adopted by a resolution of any State Parliament.

Chemists and their Windows.

By W. B. Dingley.

IT is a well-recognised fact that chemists and druggists as a whole are a smart, progressive set of business men, and appreciate more than most any useful hints and ideas showing how they can attract more business. It seems to me that the chemist's trade depends not so much perhaps upon the existence of his window as upon its contents, because people do not as a rule stand in front of his window as they would before a draper's or some such establishment unless there is some powerful and magnetic attraction. Speaking generally, a display of chemist's stock is in itself hardly what can be described as attractive from an outsider's point of view. This is the reason why almost all chemists who are in any way up-to-date and progressive have, besides their drugs, chemicals, etc., certain goods which are of the pleasing variety—*e.g.*, toilet-requisites, perfumes, and the like. Because there is little in a chemist's general stock to attract (in the usual sense) it does not follow that the window cannot be utilised in a profitable and business-pulling manner.

It is absurd for any chemist to say his window does not pay for dressing, for if dressed properly there is no window that pays so well for the time and trouble spent in dressing it. When a chemist's window is "dressed" it is dressed, for the chemist, being a man of good education and taste, realises the value of colour-schemes, and you know it, for everything is so placed that the colours of the soap-wrappers, labels on bottles, cartons, etc., all blend; and taken as a whole a good chemist's window is a set-piece of artistic skill from which the omission of one colour would, perhaps, spoil the effect. If a chemist's window is dressed as it ought to be, it will be found a really profitable advertisement. But to make it pay and to bring custom the same care should be given to this form of advertising as to the newspaper and circular.

All chemists should dress their windows on a definite plan, for it makes it easier and at the same time more pulling. The displays should be arranged to appeal and catch the feminine eye, since women as a general rule are the most enthusiastic shoppers.

Windows that are dressed in one article and one line of goods style are the windows that make the money, for they are always carefully watched by keen buyers. This fact was well illustrated by Mr. George Edward Marfitt, of Leicester, in the *C. & D.* of January 29, where he told of the good business which followed his quinine-wine window display. Quinine-wine is cut to 8½d. in Leicester, but Mr. Marfitt sold three-quarters of a gross of bottles, during the three or four weeks the show was in the window, at 1s. 1d. This shows plainly that for one article or one line of goods window-shows there is not the necessity to cut prices as in an ordinary display, for, by the aid of three or four window-cards, the good points of the line shown can be thrown up, which cannot be done in a general or mixed window.

For ordinary purposes I would select that part of stock which can be classed as having an attractive or advertising value, and give the window its chance with that, changing the window regularly—say, every ten or fourteen days' time—and, as a variation, taking certain remedies, toilet-articles, etc., and trying to emphasise their merits by means of the window-space, for which, remember, you are paying rent whether you use it or not. There is no landlord living who would knock off a penny piece because your window did not pay you. Therefore, let me most strongly impress upon you the necessity of using your window properly so as to get the full and lasting benefits the window should give you if properly dressed. Smart, business-pulling window-shows get you to be known as an enterprising and smart tradesman; you get more good business, and that means increased profits.

The window is the right spot for advertising and showing novelties, etc., for it costs so little to make the display. I think it is this costing so little that is against the window as an advertising medium; it does not seem or look so important as a column in a local paper, whereas it is more important in every way; for directly the pro-

spective customer makes up his mind that he will try so-and-so, there is the door at side of window for him to enter, whereas on an average there is ten to thirty minutes' walk between the newspaper reader who has made up his mind to try the article advertised and the chemist's door, which in many cases is never reached if the reader passes that of a competitor.

To help you make your window-displays profitable you must use those little pieces of board called window-tickets, with smart, telling sentences on them that will tell your story and act the silent salesman and sell the goods to your customers even better than you can yourself. They work persistently as well as silently, and are not subject to depression like a human salesman, or laid under any disability, as you may be when your mind is occupied with other matters.

The surest way to make your window pay and act the silent salesman is to show a few selected articles of various kinds rather than a multitude that defies description. Much better dress the window with one article—certainly not more than two or three—for by only having one or two articles nicely displayed the attention of the public is directly concentrated upon what they see, instead of looking over a lot of things and passing away without realising exactly what they have seen. Not a bad plan is to make a display of toilet-articles one week, toilet-soap the next, dentifrice the next, and, as the seasons come round, the main articles and medicines that are in general use at these particular periods. Each display will be found to have more than paid for itself by the splendid advertisement if, in your scheme of operations, you have been careful to use window-tickets.

All chemists use window-tickets, but I wish to refer to something more advanced and something more effective in sales-making than the type generally used. Some go to the length of saying that window-tickets, taken as a whole, are of no use from an advertising and selling point of view. What they think of is generally the kind that costs 6s. per gross, wording being such as "Only 6½d.," "Good value," "Our price," and "Cheap." These tickets are worse than useless, for they dishearten even the brightest man. There is no selling-power in them; the wording conveys nothing.

Mr. Marfitt says truly that the appearance of the card depends a good deal on the way the wording is written and displayed. It is a great mistake to put too much on a card. No more should be put on a card than can be taken in at a glance, or, at least, a catchword or phrase should stand out prominently so as to arrest the attention of the casual glance of the passers-by. For instance, on a cod-liver oil emulsion card "Children like it" leads the passer-by to inquire mentally, "What?" Above all, bring out the name of the article and give the price a prominent position. The price should always be given, unless there are several tickets together for the same article. An example or two may be given:

DON'T FEEL VERY GRAND TO-DAY!
Then the best thing you can do is to have a
Bottle of — Tonic; it will soon put you right.
Price 1s. bottle.

Here you are! Just the Cough Cure!
Not a big bottle, but big enough to effect a
QUICK CURE. Price 1s. bottle.

HEALTH OR WEALTH? Get Health and you
will be strong to make Wealth.
This — Mixture will make you strong. Your
Shilling will buy it.

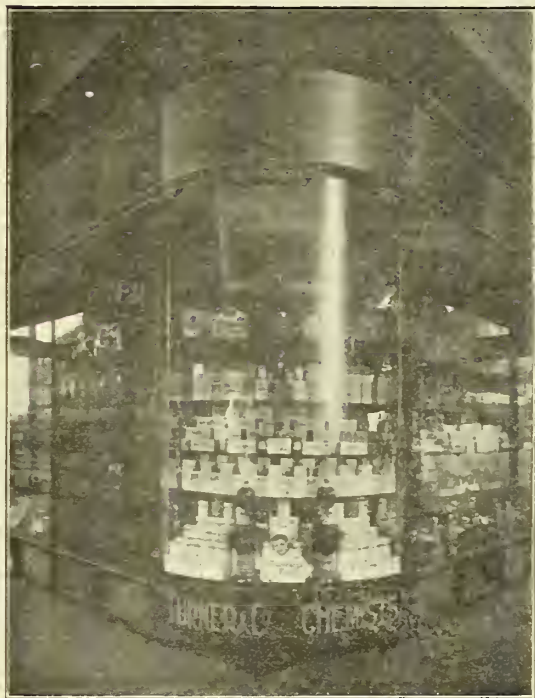
Such cards sell your goods and make your window-displays pay; the best sizes for cards worded as above are 9 in. by 6 in., costing 4s. per doz.; 12 in. by 10 in., 6s. per

doz.; 12 in. by 19 in., 12s. a dozen. The best way to have these written is in black ink on good hard white board, because they blend with any colour, label, box, or carton, which cards written or coloured do not. There is nothing that looks smarter than a card with a good margin. The black ink appears to throw up the pure whiteness of the card, they are stronger in effect, and have the advantage over other kinds of tickets of harmonising with any colour.

In conclusion I would say to every chemist, for the continued patronage of old customers and the obtaining of new ones, see that your window is bright, clean, and smart, as the people looking in at the window size up the owner from its appearance. Let this "sizing up" be in your favour, and a continued run of customers and prosperity will be yours to repay you for the trouble you have taken to get it.

Chemists' Windows.

Photographs of window-displays sent to the Editor for reproduction in this section should be accompanied by notes on how the windows were dressed, and, where possible, the results.



A Good Display.

Messrs. Turner & Co., chemists, Pritchard Street, Johannesburg, have a magnificent show-window, which lends itself particularly well to the exhibition of specialities. In the show above pictured Allenburys' foods occupied the place of honour in the circular part of the window, with jars of antiseptic throat-pastilles as a relief, and on the upper shelves were Bynin preparations and the like. The enclosure to the right of the picture was, when the photograph was taken, used for perfumes and toilet-preparations. Large bottles were a feature, and indicate that some Johannesburg people must have money to spend on luxuries.

A REVOLVING WINDOW-BOTTOM is attracting considerable attention from passers-by in Fleet Street, London, E.C. The idea, apparently evolved by the mechanical genius of the proprietor, a cycle-accessories dealer, consists of a continuous band about a yard wide revolving round rollers. Some two yards of cycle-accessories, neatly ticketed with prices, are visible, and are being continuously brought to the front of the window. The idea is applicable to chemists' packed lines, brushes, etc. A small electric motor would serve as source of energy.

Westminster Wisdom.

A Record of Parliamentary Progress.

PORT OF LONDON BILL PASSED.

Midland manufacturers have withdrawn their opposition to this Bill, and it was read a third time in the House of Commons on July 21.

PETROL FOR MEDICAL MEN'S MOTORS.

The Chancellor of the Exchequer has informed Mr. G. L. Courthope, on July 25, that the Commissioners of Customs and Excise will be prepared for the present to consider the claims for repayment of the petrol duty in the case of medical men.

THE DURATION OF THE SESSION.

It is anticipated that the first portion of the present Session will be brought to a close early next week, and that Parliament will then be asked to reassemble on Tuesday, November 8, for the purpose of dealing with the annual Budget of the year and other matters which have been left over for discussion in the autumn.

CELLULOID HAIR-CURLERS.

The Home Secretary has privately informed Sir Francis Channing that he is aware that articles made of celluloid are highly inflammable, and he thinks that this is now pretty generally known, and the accidents which come to the knowledge of his Department are few. He is advised that he has no power to make regulations in the matter.

THE VALUE OF MEDICAL QUALIFICATIONS.

On Monday, July 25, the Home Secretary informed Mr. A. Lynch, who had questioned him about the supposed disparity in value of medical degrees and diplomas, that it is the statutory duty of the General Medical Council to inspect and report on all qualifying examinations, and if it appears to them that the standard of proficiency required at the qualifying examinations held by any of the licensing bodies is insufficient, to make a representation to that effect to the Privy Council, who are empowered, if they think fit, after due inquiry, to order the withdrawal from medical authorities of the right to hold qualifying examinations.

CHEMISTS AND JURY-SERVICE.

As forecasted in the *C. & D.* last week, Mr. Percy Alden duly placed upon the order paper of the House of Commons the amendment to the County Common Juries Bill which he had drafted after consultation with the authorities, and the object of which was to exempt from jury-service all registered chemists and druggists actually practising. The amendment, which we have every reason to believe was acceptable to the Government, and would have been accepted on their behalf by the Solicitor-General when the Bill came before the House of Commons. It was in the following terms:

To move the following clause:-

All registered pharmacists, if actually practising as pharmacists, shall be exempt from being returned to serve or from serving upon any juries or inquests whatsoever, and their names shall not be inserted in the lists of persons qualified and liable to serve on the same.

The Earl of Ronaldshay, Mr. Winfrey, and Mr. Thomas Lough had notices on the order paper for the amending clause, as printed last week, which, however, were not moved.

When the Bill came before the House late on July 26, the Speaker ruled that the amendments on the paper were out of order. There were no exemptions contained in the principal Act, and therefore it would be out of order to propose to add exemptions, and for that reason the amendments were not in order. The Lords' amendments were agreed to and the Bill passed.

THE JURIES ACT, 1825, was mentioned in the N.U.A.P. card re exemption of chemists from jury-service, instead of the 1862 one, but Mr. E. S. Francis tells us that the error was detected and corrected before the cards were sent to M.P.'s.

Aphorisms and Epigrams.

Written by "C. & D." Subscribers with Words selected from "C. & D. Diary" Advertisements.

Report on the Competition.

ONE of the coupon-cards enclosed with each copy of the *C. & D. Diary*, 1910, set a new problem—viz., to form a readable sentence from names of articles and words occurring in the *Diary* advertisements. Spaces were given on the postcard for twenty words, and we have from time to time since the beginning of the year printed selections from the postcards sent in, which were unexpectedly numerous, considering the difficulty of the task. We promised to award at least six half-guineas for the best sentences, and these prizes are awarded for the following:

The live business man of to-day obtained success by constantly advertising his specialities in THE CHEMIST AND DRUGGIST; try it.—*G. R. Pancoast, Palmyra, N.J.*

The words are selected from the following advertisements:

A. & F. Pears, p. 25; Halifax Photographic Co., p. 125; D. Grant, p. 26; Danyasz Virus, Ltd., p. 110; May, Roberts & Co., Ltd., p. 27; C. J. Burt, p. 308; Barnett & Co., p. 474; The Lambert Pharmaceutical Co., p. 316; Daggett & Ramsdell, p. 46; T. & W. Henry, p. 271; Wright, Layman & Umney, Ltd., p. iii; H. C. John, p. 105; C. J. Hewlett & Son, Ltd., p. 264; H. W. Bush & Co., p. 39; The Apollinaris Co., Ltd., p. iv; The Chemist's Compact Library, p. 546; Parke, Davis & Co., p. 10; M. Beetham & Son, p. 55; Scrubb & Co., Ltd., p. 49; and Burroughs Wellcome & Co., p. 150.

Every successful man you ever met did something better; the most successful men of all have done everything much better.—*Geo. C. Law, Plymouth.*

The words are selected from the following advertisements:

Holzmueller & Schmidt, p. 535; Liverpool School of Pharmacy, p. 119; Robert Cooke, Ltd., p. 124; Riley Bros., Ltd., p. 541; The Spatula, p. 124; Burroughs Wellcome & Co., p. 146; J. & G. Miller, p. 484; The Chemist's Compact Library, p. 546; Viscose Development Co., Ltd., p. 58; J. H. Smith & Co., p. 112; George Black & Co., p. 35; The Edinburgh Central School of Pharmacy, p. 122; The Standard Tablet and Pill Co., p. 95; Fellows' Syrup, p. ii; Kingsley and Thackeray Hotels, Ltd., p. 141; Orridge & Co., p. 116; Ayrton-Graham, Ltd., p. 20; Ayrton, Saunders & Co., Ltd., p. 503; F. J. Stokes Machine Co., p. 77; and Barnett & Foster, p. vii.

Under Union a reliable, determined Government is essential, looking with a single eye for the progress and development of South Africa.—*George J. King, Tongaat, Natal.*

The words are selected from the following advertisements:

Brady & Martin, p. 496; Wm. Gardner & Sons (Gloucester), Ltd., p. 81; R. Hovenden & Sons, Ltd., p. 74; Glaxo, p. 422; Orridge & Co., p. 116; E. Bennett & Son, Ltd., p. 83; Thompson & Capper; Stafford Allen & Sons, Ltd., p. 468; H. Poths & Co., n. 530; H. A. Wanklyn, p. 80; John Bell, Hills & Lucas, Ltd., p. 72; Standard Tablet and Pill Co., p. 94; R. J. Reuter, p. 73; Aimée Lloyd & Co., p. 75; The British Drug Houses, Ltd., p. 241; Stevenson & Howell, Ltd., p. 8; Daisy, Ltd., p. 89; Cupal, Ltd., p. 84; J. W. Pindar & Co., p. 82; and The Chemist's Compact Library, p. 546.

It is nothing new to study the "Diary" advertisements for profit. We do that throughout the year.—*J. J. Witten, 51 Hendon Road, Sunderland.*

The words are selected from the following advertisements:

Brunner, Mond & Co., Ltd., p. 244; Stevenson & Howell, Ltd., p. 9; Southall Bros. & Barclay, Ltd., p. 45; Evans Sons Lescher & Webb, Ltd., p. 21; Harrison & Waide, p. 33; J. T. Davenport, Ltd., p. vi; F. A. Degen, p. 38; Excelsior Printers' Supply Co., Ltd., p. 34; W. F. Young, P.D.F., p. 102; Day & Sons, Crewe, Ltd., p. 103; J. W. Dennis, p. 107; To-Kalon Mfg. Co., Ltd., p. 48; R. Hovenden & Sons, Ltd., p. 74; Samuel Jones & Co., p. 32; S. Kutnow & Co., Ltd., p. 429; Parke, Davis & Co., p. 13; and Burroughs Wellcome & Co., p. 145.

Untiring strenuous effort is inseparable from marked success and rule-of-thumb methods bring only their own reward.—*Herbert E. D. Stevens, Toorak, Victoria.*

The words are all selected from Messrs. Burroughs, Wellcome & Co.'s advertisement, pp. 145-149, except "bring," which is from Ayrton, Saunders & Co.'s, p. 503.

A trustworthy policy, efficiency, excellent administration with economy, and specialising without piracy, form the key-note to pharmaceutical business success.—*A. E. Warden, Mitcham.*

The words are selected from the following advertisements:

The Chesebrough Manufacturing Co., p. 43; James Woolley, Sons & Co., Ltd., p. 71; Stafford, Allen & Sons, Ltd., p. 468; Jeyes' Sanitary Compounds Co., Ltd., p. 109; C. E. Fulford, Ltd., p. 65; R. Hovenden & Sons, Ltd., p. 74; James L. Hatrick & Co., Ltd., p. 525; The F. J. Stokes Machine Co., p. 77; Allen & Hanburys, Ltd., p. 161; Cupal, Ltd., p. 84; Day & Sons, Crewe, Ltd., p. 41; Bidwell, Bidwell & Co., p. 65; The British Drug Houses, Ltd., p. 241; Fairchild Bros. & Foster, p. 433; Burroughs Wellcome & Co., p. 146; Parke, Davis & Co., p. 12; C. R. Harker, Staggs & Morgan, Ltd., p. 286; Oppenheimer, Son & Co., Ltd., p. 158; and Fellows' Syrup, p. ii.

Besides these six prizes we shall give supplementary prizes of "The Chemist's Medical Dictionary" to each of the following, whose sentences are highly commended:

Mr. A. Akhurst, Southbourne West, Bournemouth.
Dr. Alexander Baroody, Beyrouth, Syria.
Mr. Wm. Napier Bingham, Dannevirke.
Mr. A. H. Churchill, Birmingham.
Mr. John F. Courtney, Carrick-on-Suir.
Mr. William Crozier, Monkwearmouth.
Mr. W. Dennis, Mundesley-on-Sea.
Mr. E. R. Hine, Ficksburg, O.R.C.
Mr. A. L. Holtom, Small Heath, Birmingham.
Mr. S. C. Lazarus, Bethlehem, O.R.C.
Mr. G. E. Marfitt, Leicester.
Mr. G. Patrick, jun., Consett.
Mr. Fred A. Payas, Buenos Ayres.
Mr. S. H. Platin, Nottingham.
Mr. W. Phillips, Wolverhampton.
Mr. A. J. Salmon, Jamaica.
Mr. E. Stubbs, Birmingham.
Mr. H. B. Tilden, Lahore.
Mr. J. Vassallo, Sliema, Malta.
Mr. J. T. Walters, London, E.C.

More of the Epigrams.

Study money-making books: replenish your stock with toilet-articles, winter specialities, disinfectants, chemicals, drugs: keep prices right, quality right.—*J. H. Bell (South Shields).*

The *Diary* advertisements enable up-to-date chemists to buy and sell their stock to the best possible advantage.—*F. T. Wilby (Leicester).*

Good news: A world-wide business and live rent free may be obtained by advertising in the *C. & D.*—*P. C. de Montreuil (Chester).*

A very few Maw days Paine Wood Seymour Fellowes Wellcome Battle. Grant Field Armour may last. Hope CHEMIST AND DRUGGIST Wright Toomey. (A very few more days pain would see more fellows welcome battle. Grantfield armour may last. Hope C. & D. write to me.)—*Leonard Rayner (Stanmore, Sydney).*

To succeed it is essential that every pharmacist should give personal attention to business and stock the finest quality goods.—*S. C. Lazarus (Bethlehem, O.R.C.).*

In dispensing medicines, pharmaceutical chemists find it profitable to use only the best quality of drugs obtainable from reliable houses.—*John F. Courtney (Carrick-on-Suir).*

Business is not by any means collapsible when the unassailable CHEMIST AND DRUGGIST is carefully revised weekly as it appears.—*A. E. Derry (Skipton).*

At this season be Abol (able) to Armour yourself with gold, and be packed in free balances for the onward march.—*William Corrigan (Celbridge).*

The proprietors' articles are specially suitable for surgical and dental purposes, and good chemists can save money by selling spectacles.—*Joseph Keating (Borris).*

Chemists manufacture tinctures, plasters, pills for sale; also sell disinfectants, bandages, poisons, tablets, and stick at nothing to make money.—*Mrs. G. T. Ferrie (Kirkliston).*

Over forty years has THE CHEMIST AND DRUGGIST's Annual been sent out, and each year it has increased its reputation.—*W. Dennis (Mundesley-on-Sea).*

The *Chemists' and Druggists' Diary* is an important and attractive book, of world-wide reputation, with information indispensable to every chemist.—*F. Eling Cooper (Bath).*

Spring, summer, autumn, and winter—all the year round there is a big demand for this standard wine-tonic. Win-carnis.—*Dr. F. P. V. Naidu (Tanjore, Southern India).*

The *Chemists' and Druggists' Diary* is simply invaluable to all chemists and druggists of England, Scotland, Ireland, Wales, and everywhere.—*Wm. Napier Bingham (Dannevirke, New Zealand).*

Your weekly journal and annual *Diary* is of the greatest service to chemists, whose library is not complete without it.—*G. James (Hobart, Tasmania).*

Modern shop-fitting manufacturers do really study chemists' requirements in a special manner, as they usually give satisfaction to all concerned.—*A. J. Salmon (Lucca, Jamaica).*

Chemists advertising soon turn to cash, and up-to-date pharmaceutical lines are the best for generous profits, except unpleasantness in business.—*Dr. D. A. Jejuriker (Poona).*

If you wish to succeed in pharmaceutical preparations business send for the *Chemist Druggist's Diary*, research all excellent Buyers' Guide.—*Dr. Alexander Baroody (Beyrouth, Syria).*

Every pharmacist who makes a study of his business possesses THE CHEMIST AND DRUGGIST, and finds it a business help.—*H. B. Tilden (Lahore).*

Smart business hints always about and new in the *Chemists' and Druggists' Diary*, which every year retains its high efficiency.—*E. H. Juergens (Tenterfield, N.S.W.)*

One strange winter Blackie spun with rapid steps to solace Daisy Hazeline. Standard Fellows watchful to capper made Daisy foam.—*Thos. Ekins (Heidelberg, Victoria)*.

The *Chemists' and Druggists' Diary* is a boon to the retail trade. It is also invaluable to the Colonial chemist.—*E. R. Hine (Ficksburg, O.R.C.)*.

Good news for chemists all over the world: THE CHEMIST AND DRUGGIST, the best of its class for business men.—*Fred A. Payas (Buenos Ayres)*.

Progress in our profession is greatly associated with the trade-journal THE CHEMIST AND DRUGGIST.—*C. E. Carr (Forest Hill, S.E.)*.

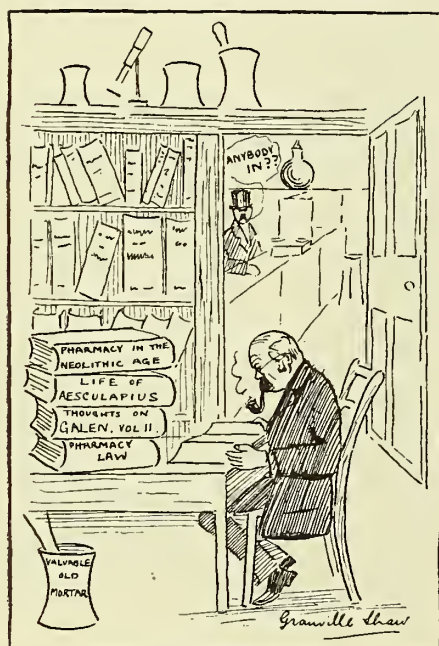
Maw's perfect British toilet-preparations succeed at home and at business. Gents, order from your chemist; refuse any other makers.—*M. Day (Shrewsbury)*.

All chemists who are desirous of ensuring success in the horticultural trade should consult the *Chemists' and Druggists' Diary*, 1910.—*J. Lightbourne (Tenby)*.

THE CHEMIST AND DRUGGIST is the best advertising medium for medicines, perfumes, soaps, salts, and is of world-wide demand.—*L. Greener (Anfield, Liverpool)*.

THE CHEMIST AND DRUGGIST is worth its weight in gold.—*J. Vassallo (Sliema, Malta)*.

Pharmaceutical Types.



The Born Pharmacist.

IMMERSED in pharmaceutical lore he sits,
And, all unheeding irate public bawl,
He burns the weed Nicotian, as Time flits
On lightning wing; his books his all-in-all.
The Æsculapian Age unkindly blends
With Twentieth Century, and it is but ill
To practise Neolithics as one sends
A machine-added, clean, type-written bill.
And how compare Galenic "Thoughts" with speech
Of troubled brother, anxious-eyed and wan
With much travail in efforts dire to teach
The public Stores and Companies to ban!
But fascination of the glorious Past
For him is great—so long as profits last.

Liquor Santali Flavi Co.

By R. C. Cowley, F.C.S., College of Pharmacy, Brisbane.

THE desire to obtain a water-soluble preparation containing santal oil, cubeb oil, and copaiba has given rise to several preparations, some of which have attained

considerable prominence. Without having any desire to imitate any proprietary brand of preparation containing these ingredients, I have paid some attention to the formula given in "Pharmaceutical Formulas." This was considered by the compilers of the existing "Australian Formulary" as suitable for inclusion in that booklet. This work is now undergoing revision and enlargement, and I was asked by the Queensland Committee to revise the formula, particularly with the object of preparing a solution containing all the essential oils.

A critical survey of the formula and the directions given shows that the chief oily ingredients are not susceptible of saponification with liquor potassæ to any appreciable extent; the prolonged boiling with the liquor potassæ will result in the evaporation of a quantity of the oil, and the treatment with magnesia will account for a good deal more of it. Hence the preparation will be deficient in the constituents it is intended to contain. Moreover, the quantity of alkali is far in excess of that required to saponify the esters present in the oil, and the reading of the directions may in the hands of an incompetent pharmacist lead to the use of much more. The use of oil of copaiba can hardly be commended when the resins in the balsam will on saponification assist materially in making the oils more soluble. I have an impression also that the resins have a medicinal value greater than that of the oil.

Having these points in mind, I substituted for oil of copaiba a quantity of balsam equivalent to the oil in the formula. I mixed a quantity of the oily constituents of the formula and determined the saponification-value of the mixture. This gave me the exact amount of alkali required for the material under examination, which, of course, would not be a suitable proportion for different samples of material. A slight excess of alkali is, however, not an objection, provided it is not too great. The oils were readily dissolved by the alkali and the alcohol of the formula, but were to a large extent precipitated by the aqueous ingredients, a fact which might have been foreseen from the nature of the oils. The precipitation was entirely prevented by the addition of a certain amount of olive oil to the ingredients and an additional amount of potash to saponify the oil.

The formula now reads as follows:

Santal oil	...	...	16	c.c.
Oil of cubebs	...	...	8	c.c.
Oil of pimento	...	...	0.5	c.c.
Oil of cassia	...	...	0.5	c.c.
Balsam of copaiba	...	...	16	c.c.
Olive oil	...	...	20	c.c.
Alcohol	...	...	64	c.c.
Caustic potash	...	...	5.75	grams
Tincture of buchu	...	...	48	c.c.
Infusion of buchu (1 to 7)	...	...	48	c.c.
Distilled water	...	...	a	sufficiency

Dissolve the potash in 5 c.c. of water in a flask, add the oils, the balsam of copaiba, and the alcohol. Heat on a water-bath for a few minutes, arranging so that the volatilised alcohol drops back into the flask. A suitable arrangement for the purpose when a condenser is not at hand is to place a funnel in the neck of the flask and a dish of cold water in the funnel. Test the solubility of the liquid in water, and when it mixes clear, which it will after a few minutes' heating, cool the liquid, add the remaining ingredients, and sufficient water to make 264 c.c.; filter through paper.

The product is perfectly miscible with water; it contains all the oils; and the modified formula has the additional advantage of being quickly prepared. The time required need not be longer than half an hour. The formula might be improved by substituting tincture of buchu or fluid extract entirely for the indefinite 1 to 7 concentrated infusion, which has nothing, except perhaps cheapness, to recommend it. Additional flavouring agents might also be added; so might a proportion of glycerin, to make it more palatable; and to prevent precipitation of extractive matter. These additions are beyond the scope of the investigations undertaken, and may safely be left to the judgment of more skilful compounders than the writer, who undertook only to produce a preparation containing all the active constituents of the formula.

[We may point out that the potash-solution and oils are not prescribed in P.F. to be boiled together, and copaiba itself (not the oil) is given therein.—EDITOR C. & D.]

The Penny Trade:

How to Conduct It.

IT is an undoubted fact that a great part of the business of chemists and druggists at the present time embraces a very considerable number of penny sales, and, whether we like it or not, it has come to stay. It is by no means to be despised, as there is evidence around to show the possibilities of the humble penny. Fortunes have been made and are still being made from the accumulation of penny upon penny. Many of the well-worn proverbs, such as "Despise not the day of small things," etc., can be equally well applied to the subject under consideration. The daily newspaper alone is a striking illustration. The object of this article is to show from a lengthy experience how to make the utmost of demands covered by the "humble brown."

The note of pessimism that one hears so frequently among our brethren could be toned down, if not entirely silenced, by giving due attention to this penny trade, and when I say due attention I do not mean inordinate attention, for there is the error of overdoing it, or, rather, in omitting to keep a watchful eye on the possibilities of larger sales. It is said of us pharmacists that "we weigh in grains and think in grains," but we can improve on this by weighing in grains and thinking in tons.

In tackling this trade there are several points that must be considered. One of the first is to have the items packed up neatly and placed conveniently for sale, for one has not to go very far to observe the great waste of time and material which mean profit, by weighing up as the article is asked for. I have explained this fully to my apprentices time after time; it is worth while repeating it. Supposing the customer asks for, say, a pennyworth of flowers of sulphur, and it is not ready packed up, we first step to the drawer or other receptacle containing it. This may be only a few feet away, still it is one operation. We bring the drawer to the scales or, what is worse, bring some in a scoop; we get a piece of wrapping-paper, place on the scalepan, weigh out our quantity, take back the drawer, wrap up the packet, walk to the sealing jet, get a label and place on, and finally hand to the customer—probably six operations when one might have sufficed. It is very rare that such serving can be done without some waste, such powder dropping on the floor, counter, or scalepan.

One might say that it is not always wise to serve customers too quickly, as they can have a look round and may purchase some displayed article; if one thinks such is the case this can always be tactfully managed. From one's knowledge of the requirements of his district it is easy to make a list of what goods should be kept ready packed, and is a vast help in any shop. To guide those who have not done so, I append such a list; it can be clearly written on the back of a disused showcard and hung up behind the packing counter, or what we mostly like to call the "dispensing department." Prices differ considerably in different parts of the country, also the class of goods in command demand differ, but the principle is the same, and each can draw out a list to suit his own requirements:

List of Goods to be kept Packed.

ANTIBILIOUS, COMP. RHUBARB, APERIENT, OR OTHER PILLS.—1d. and 2d.

BICARBONATE OF SODA.—1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d.).

BORAX.—1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2d.).

BORIC-ACID POWDER.— $\frac{1}{2}$ oz., 1d.

COMP. LIQUORICE-POWDER.— $\frac{1}{2}$ oz., 1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d., 4½d.).

CREAM OF TARTAR.— $\frac{1}{2}$ oz., 1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d., 4½d.).

DRAGON'S-BLOOD.—1 oz. into 5, 1d.

EPSOM SALTS.—1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d.).

FERRI SESQUIOX.—1 oz. into 5, 1d.

FLOWERS OF SULPHUR.—1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d.).

GREGORY'S POWDER.—1 oz. into 12, 1d. size; 1 oz. into 8, 1½d. size; 1 oz. into 6, 2d. size.

HIERA PICRA.—1 oz. into 5, 1d.

INSECT-POWDER.— $\frac{1}{4}$ oz. 1d., $\frac{1}{2}$ oz. 1½d., 1 oz. 3d.

LINSEED.— $\frac{1}{4}$ lb., 1d.

MAGNESIA.— $\frac{1}{4}$ oz., $\frac{1}{2}$ oz., (1d., 1½d.).

MILK OF SULPHUR.—1 oz., 2 oz., $\frac{1}{4}$ lb. (1d., 1½d., 2½d.).

OXALIC ACID.— $\frac{1}{2}$ oz. 1d., 1 oz. 1½d.

POTASS. PERMANGANATE.— $\frac{1}{2}$ oz., 1d.

POWDERED JALAP.—1 oz. into 5, 1d.

POWDERED RHUBARB.—1 oz. into 12, 1d.

SAFFRON.—30 grains into 6, 1d.

SALT OF LEMON.—1 oz. into 3, 1d.

SENNA-LEAVES.— $\frac{1}{2}$ oz., 1 oz. (1d., 1½d.).

SUGAR OF LEAD.— $\frac{1}{4}$ oz., 1d.

TARTARIC ACID.— $\frac{1}{2}$ oz., 1d. (use parchment paper).

WHITE AND RED PRECIPITATE.—1 oz. into 12, 1d.

ZINC, BORIC, GALL, MERCURIAL, AND OTHER OINTMENTS.—1d. and 2d.

ZINC SULPHATE.—1 oz. into 5, 1d.

In districts where drugs are pushed by advertising in bulk it will be necessary to keep packed up in pounds: Borax, soda bicarb., Epsom salts, flowers of sulphur, cream of tartar, saltpetre, etc. In such cases it is a valuable move to give with the packet a handbill referring to one or more "own specialities." Seidlitz-powders are omitted from the above list, as these are now usually purchased ready packed at cheaper rates than the average retailer can pack. In some establishments the trade is so considerable that it is possible to keep one or more girl-packers.

In conclusion, buy well, weigh carefully, pack and label neatly, and gauge the amount of each article to be put up at a time in order that the packet when handed out shall have a fresh and clean appearance. Always be alert to any remark a customer may make when purchasing any one of the innumerable pennyworths; opportunities occur in most cases to sell more of the article in question, or to speak of the value of some preparation of one's own which will really be to the mutual advantage both of buyer and seller; serve out courteously but without undue effusion.

William the Porter.

His Philosophisings as recorded by Bruce Logan.

V.

"WELL, sir, we've done it," remarked William, pausing for a moment to remove a piece of loose skin from a lacerated finger.

"Ay, sir, that bit of a signboard has been above t' shop for twenty years to my knowing, an' now it's come down."

"Pharmacists ye be for t' future, an' ye'll treat man as calls ye chemists with as much contempt as if he were a streaky pill."

"Ah, 'tis all very well, sir; but somehow it hurts me a bit, for th' old name was sort o' respected round these parts, an' folks allus understood what it meant."

"Oh, so ye're doing it to improve trade conditions a bit, are ye? Well, I dunno, but valerian 'd smell t' same if ye changed it's name a dozen times; an' it 'pears to be that putting a clean glove on be a terr'ibly poor way o' cleaning your hand."

"There be just one thing about it, sir, as far as it be in my judging. Young uns be terr'ibly clever nowadays, an' very fond o' putting all t' blame on them as have gone afore 'em."

"Well, now, they've a chance to make a bit of a reputation for themselves, an' to prove as how they're clever enough to make th' new name more respected than th' old un was."

"But I tell ye they've got a long way to go afore they do that."

"Ye know, sir, there be few folks as really know what a pharmacist really be; an' if they find out as it be a man as deal in penwipers an' clothes-brushes—well, it's going to take a powerful lot o' talky-talky to convince 'em as they're as good as th' old-fashioned chemists."

"Well, I say as young uns have now got their chance an' that they'll get t' praise or t' blame for it later on. But ye know it 'pears to me that it's time some of 'em thought a bit more about it, an' made up their minds right away whether they're going to be marine-store dealers or be Advocates for Life with th' instruments of Death."

"Nay, nay, sir; time o' choosing is at hand, an' as choice is made so will t' new name become respected or 'll sink in th' estimation of public until it fades away, or remains as a torment to those as hoped for better things."

F

Old Trade-stationery.

By Fred W. Burgess.

THERE is a good deal of controversy going on in reference to the up-to-date methods of retail trading, and some are loud in the praises of the smartness of modern shopkeepers, speaking in somewhat contemptuous terms of the old-world traders who were content to jog along without using any form of advertisement. A glance, however, through a collection of old letter-headings, trade-cards, and labels shows how very erroneous this idea is; the shopkeepers of sixty to a hundred years ago were very much alive to the advantages of pictorial illustration and oftentimes employed the first engravers of the day to produce



the copper plates from which were printed their invoice forms. Most of the pretty little pictures were illustrative of their trades, but so pleasing that they were frequently retained when otherwise they would have been destroyed, and thus proved far more lasting advertisements than the types of modern stationery are likely to be.

Many interesting facts might be related about the old engravers who worked so laboriously in the production of traders' labels and letter-headings, oftentimes the same craftsmen who were employed by wealthy patrons in the production of bookplates and sometimes in engraving bank-notes for the local banks who then issued their own notes. In those days the work produced by copper-plate printing was clear and distinct, effected by a laborious process, but the results were satisfactory, for the beautiful little pictures which those artists of no mean repute incorporated in the designs so cleverly were the means of drawing business. Such engravers as Bewick, Lambert, and Smith were engaged. Needless to say these labels were printed from the plate direct, for it was not until 1842 that the lithographic stone was invented, and process-blocks were then far off.

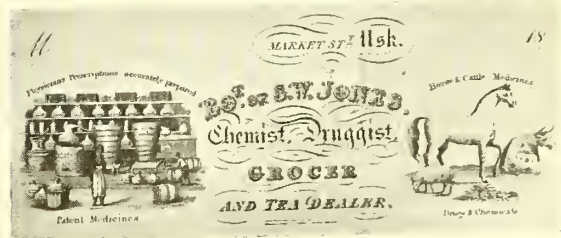
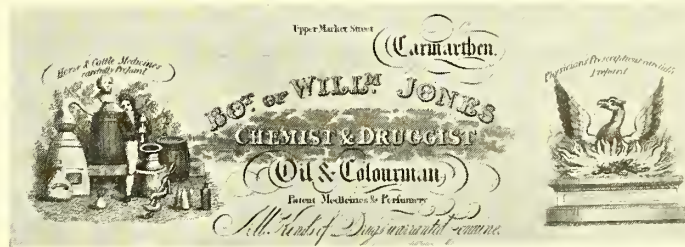
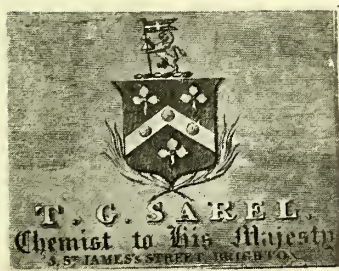
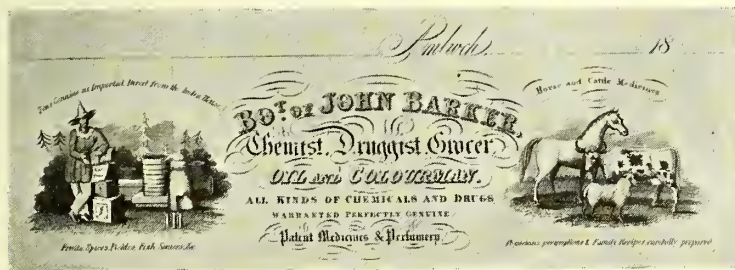
Very noticeable features in old trade-stationery are the way in which craftsmanship was brought into prominence, the arrangement of shops and warehouses faithfully portrayed, and the preparations and specialties handled pictorially advertised. As might be expected, the apothecary and alchemist were typified on the older cards or tickets, and many cleverly engraved "emblems of the craft" show how primitive were the appliances at the disposal of the chemists of former years. When George III. was King the royal arms were more commonly used than now, and royal warrants more liberally distributed. Very many of the chemists, without authority doubtless, adopted the royal arms, the old establishment of such businesses still existent being well authenticated by the Hanoverian shield empanelled on the royal arms of England. That such beautiful letter-headings and trade-cards as those illustrated in these pages should be productive of new business can well be imagined.

Space will not permit reiteration of alchemists' signs or of the different appliances used even in country shops; neither is it necessary, for they have been reviewed many times in these columns. We may, however, briefly refer to a few of the chief characteristics of the examples given, which are but typical of hundreds more. In the letter-heading of William Jones, chemist and druggist, of Carmarthen, a strong point was made, as was customary in the early days

of the nineteenth century, of supplying genuine drugs, patent medicines, and perfumery, as well as careful preparing of physicians' prescriptions. Emblems of the pharmacist's art may be seen on the left-hand corner, where there is a retort and a quaintly dressed chemist of the past with his pestle and mortar; a cask, and the inevitable jar such as might once be seen in chemists' windows, as well as a dispensing bottle, are in evidence, and the bust our readers will no doubt recognise. In olden time the alchemist was associated "with the making of gold and silver," so much so that Diocletian burned all the ancient books of the Egyptians on chemistry so that they might no longer be able to acquire wealth by the production of their art. The knowledge of chemistry came by slow degrees, and when early trade-stationery was being adopted (for before the middle of the eighteenth century all invoices were written, practically no printed matter being used by traders) societies were being formed. The term "apothecary" is of more ancient origin than the comparatively modern title of chemist and druggist. It was the name given in years gone by to a gentleman practitioner, a part of whose business it was to keep open shop for the sale of medicines, the Apothecaries of London being incorporated in April 1606, and remained in union with the Company of Grocers until 1617, when they received a separate charter. This early association with grocers is responsible for the combination often seen in country districts. For instance, on the letter-heading shown on p. 167, S. W. Jones, of Usk, is described as "chemist, druggist, grocer, and tea dealer"; a chemist's laboratory-storeroom, with its retort, is illustrated, a strong point being made of the sale of medicines for horses and cattle. The horse, cow, and sheep also figure on the letter-heading of John Barker, of Amlwch, who seems to have been a grocer, too, for one of the pictures on his stationery represents a Chinaman with "the finest teas," as well as a retort. John Goodall, of Market Drayton, was content with using the symbol of the Phoenix rising from the ashes. This was before the days of the *C. & D.*, which introduced the key of knowledge in the mouth of the Phoenix.

One of the oldest labels illustrated in this article is that of James Arbuthnot, Junr., of Peterhead. When we come to the armorial plates, such as those of Thomas White, of Bilston, and H. Lanwarne, of Hereford, the royal arms seem to be the chief feature. So on the label used by J. E. Piper, who made the famous nectar draught, a very florid emblazonment is noticeable, an old-looking decanter and quaintly shaped tumbler being the emblems he used; the spoon with which to "stir the drink quickly" is also in evidence. The label of John Shannon, chemist and druggist, of Carlisle, who also shows the period during which he traded by the Hanoverian shield and royal arms, has upon it a typical still-room where the fragrant lavender water he prepared was distilled. A little armorial plate used by T. G. Sarel, chemist to H. M. King George III., was typical of many similar labels used at that time. So is that of C. D. Wreaks, of Sheffield, who apparently had no arms to display. John Mellor, an apothecary of Pendleton, had a well-designed series of labels (p. 168), which are neat and effective, and show that he was quite alive to the advantages of good designs. Some thirty to fifty years ago pictorial advertising, giving a local touch to the stationery and trade-cards used, was very much in vogue, and many of them took the form of pictures shown



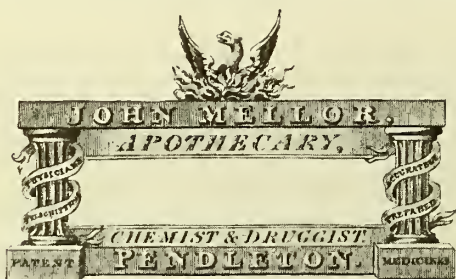


in the frames of that day. Two of these we are able to illustrate will serve to show how beautiful these cards were; one of the specimens before us is printed in blue, and the other in brown, exquisite examples of the copper-plate engravers' art at one of its best periods. The plate showing the ruins of Kenilworth Castle was, as might be expected, used by a Leamington chemist, the other, showing Warwick



Castle, by H. Baly, of Warwick. Thus we might go on enumerating the different phases in the development of trade-cards until we come to the present day.

To sum up the position, it would appear as if there is much to be learnt from the way in which business was conducted in the past by a study of such stationery, and that in examining it there is a revelation of a certain progressiveness which we do not always accord to the trader of past ages.



It is true that the apothecary and chemist were long behind others in their window-dressing schemes; the quaint bottles of the olden time are a thing of the past, and the chemists' windows of to-day are very beautiful indeed. The question we would like to ask is, Are their letter-headings and trade-cards and general literary productions illustrated in the best possible way and made productive of good to their users to the extent they might be?

[These remarks by Mr. Burgess raise possibilities of many reminiscences. For example, Mr. J. F. Tocher, B.Sc., informs us in regard to the first label given in the text that "James Arbuthnot, jun. (or 'Droggie' Arbuthnot), was of a well-known Peterhead family, which has still representatives in Peterhead and elsewhere. The apothecary wrote an excellent account of Peterhead as it was in his time. The book is entitled 'A Historical Account of Peterhead,' including the 'Natural History of the Fishes found on the Buchan Coast.'" Probably pharmacists in other districts represented by the labels and bill-heads can tell us about the chemists who issued them.—EDITOR C. & D.]

Syrupus Scillae.

By Walter S. Clark, Ph.C.

IN the preparation of syrupus scillae one might expect the following changes to occur: (1) Loss of acid, (2) inversion of sugar, and (3) hydrolysis of the glucosides present. The following experiments show that these expectations are fulfilled in part:

Two experimental batches of syrup were prepared,

(a) Containing 95 grams of sugar and 50 c.c. of acetum scillae, the whole being finally made up to 145 grams (=108.7 c.c.).

(b) Containing 95 grams of sugar and 50 c.c. of dilute acetic acid, the whole being finally made up to 145 grams.

(c) At the same time, 50 c.c. of the acetum used in (a) was heated under the same conditions of time, temperature, extent of exposed surface, etc.

These batches were then examined as follows:

	A	B	C	D
Sp. gr. at 15.5° C. ...	1.3342	1.3267	1.0395	1.0385
Grams of acetic acid per 100 c.c. ...	1.569	1.969	3.36	3.63
Grams of acid originally taken ...	1.67	2.09	3.63	—
Rotation before inversion (200 mm.) ...	+96.0°	+66.0°	-5.2°	-5.2°
Rotation after inversion (200 mm.) ...	-44.0°	-38.4°	—	-12.6°

Column D gives the results obtained with the original acetum. The figures are calculated from the results obtained with suitably diluted solutions, and the rotations were taken at 17° C.

These results show that during the preparation of the syrup—

1. A loss of about 6 per cent. of acid occurs. The extent of this loss would differ under different conditions.

2. A considerable amount of inversion of the sugar takes place. Thus in the case of the sample (b), if no change had taken place during its treatment, the reading before inversion should be +115.6°, and after inversion -38.5°.

3. Judged by the rotation, practically no decomposition of the glucosides takes place.

Four samples of syrup, obtained from different wholesale houses, gave the following results. (The results from sample A are inserted for comparison):

	A	E	F	G	H
Sp. gr. ...	1.3342	1.3426	1.3315	1.3341	1.3211
Grams of acetic acid per 100 c.c. ...	1.569	1.842	1.532	1.641	1.453
Original rotation ...	+96.0°	+77.8°	+104.0°	+64.0°	+102.0°
Rotation after inversion ...	-44.0°	-43.2°	-44.0°	-40.0°	-41.6°

Three samples of acetum scillae gave the following results:

	M	N	O
Acetic acid, grams per 100 c.c. ...	3.32	3.94	3.89
Sp. gr. ...	1.025	1.031	1.041
Rotation before hydrolysis ...	-3.9°	-4.6°	-5.1°
Rotation after hydrolysis ...	-8.0°	-9.2°	-13.2°

Having regard to the potency of squill preparations, this variability in commercial products calls for some method of standardisation. Physiological standardisation is outside the range of the pharmacist. Standards for acid-content and specific gravity would tend to greater uniformity, and these together with an optical standard would probably be sufficient in the case of acetum scillae. Unfortunately, however, the majority of pharmacists do not possess a polarimeter.

INSECT-PREVENTIVE.—A lady, purchasing some oil of cloves the other day, stated that she sprinkled it on her clothing to secure immunity from the attentions of midges and other insect-pests. She had discovered how effectual the oil is for this purpose when she suffered from toothache.

Pharmacies: British and Foreign.

RHODESIA is one of the British possessions which testify that things are not always done slowly by the citizens of this old and, some say, effete country. The southern portion of it became a British possession twenty-two years ago, and in Salisbury, its capital, one finds pharmaceutical developments and elegance which are worthy of London or Paris or New York. The first four pictures given here are from a selection sent to us by Mr. P. W. Skerrett,



NEW LENNON HEADQUARTERS IN SALISBURY.

manager to Lennon, Ltd., there, and they represent the new premises of the company at the corner of First Street and Gordon Avenue, Salisbury, occupying two full stands 110 feet by 120 feet. The building has two front entrances, one for retail and the other for wholesale and mining business, the whole of the premises are lighted with electric light which is generated in an annexe—the only store in town that has it. The retail department is considered to



RETAIL INTERIOR, SHOWING CEILING AND DISPENSING-SCREEN BEHIND THE SERVING-COUNTER.

be one of the most handsome pharmacies in South Africa, the ceiling in particular being very much admired. The photographic department is kept quite separate and is a complete little shop in itself. All fittings are of mahogany. The wholesale department is divided into sections for mining, proprietaries, sundries, wets and dries, next to it being the manufacturing-room for galenicals and the like. The back premises consist of two stores occupying 110 feet by 20 feet, engine and accumulator room, and two bed-

rooms and a sitting-room for the resident staff. Another building is occupied by a doctor, and there is stabling and



SECTION OF WHOLESALE STORAGE LOOKING INTO THE GALENICAL LABORATORY.

storage also. The company store 17,000 gals. of rain-water for manufacturing-purposes, besides having an artesian well from which they can draw 4,000 gals. per



LENNON'S STAFF IN SALISBURY.

day. Mr. Skerrett was, before going out to South Africa, some years in London with Messrs. Rouse & Co., Wigmore Street; Curtis (late Corbyn & Co.), High Holborn; and Savory & Moore, New Bond Street.

IN THE TRANSVAAL.

Messrs. B. Owen Jones, Ltd., of Boksburg and other places in the Transvaal, are well known at home, as well as throughout South Africa. We present a few pictures of their branch in the township of Benoni, which is situated about twenty miles east of Johannesburg, on the main reef in the neighbourhood of one of the best mining centres in Witwatersrand. About five or six years ago stands in this township were sold by the Kleinfontein Estates and Township, Ltd., and Messrs. B. Owen Jones, Ltd., secured one of them, to which they transferred their Kleinfontein branch three years ago. The first picture on p. 170 shows the original pharmacy where the nucleus of a good business was formed. The manager, Mr. W. G. Reidford (a native of Aberchirder, Banffshire), is seen standing in front of the left window. During the severe depression of 1908, Benoni felt the setback, but after that it made rapid headway, and the managing director of the company (Mr. B. Owen Jones, M.L.A., F.C.S.) decided to remove

from the east side of the town to the west. A new site was secured in the best business part of the town, and



B. OWEN JONES, LTD., FIRST BENONI PHARMACY.

Messrs. McKenzie & Cook, architects, Boksburg, designed the new building, the frontage of which is shown in the next photograph. The work was considerably delayed



THE NEW PHARMACY.

owing to the glass of the large circular windows having to be moulded at home. The massive verandah is supported on large cement pillars and painted white. The architects also designed the interior fittings, a large part of which had to be imported. The pharmacy measures



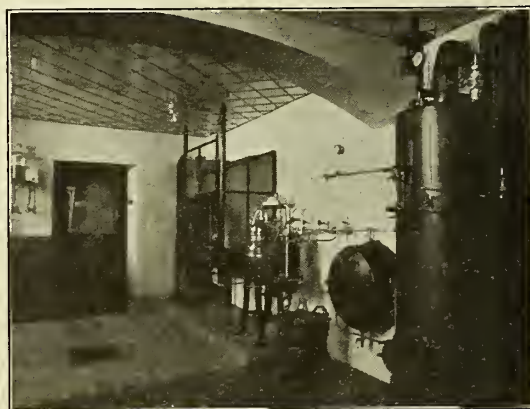
INTERIOR VIEW, SHOWING THE BACK AND EAST WALLS.

35 feet long by 21 feet wide. The circular windows are of special interest. The fitting is about two feet in depth with green tiles in the bottom and mirrors standing six feet high all round the inside, above which is cathedral

glass. Three rows of circular-shaped glass shelves are supported on bronze rods, which, when well dressed, give an excellent effect. The interior is fitted with mahogany and poplar throughout. The serving-counter is solid mahogany, with a beautiful counter-case in the centre and an upright show-case at each end, leaving a clear space for wrapping up and handing over goods. Dispensing-screen and soda-fountain divide the dispensing department from the main portion, which ensures uninterrupted attention so necessary for accurate and careful dispensing. The west wall is reserved for shop-rounds, with two large mirrors sunk in the fitting, and underneath are drawers, lockers, and cupboards suitable for drugs and sundries. On the back wall there are shop-rounds on the upper part, while on the lower are cupboards for storing drugs required in the dispensing department. The east wall has the most handsome fitting, as may be seen from the photograph. On entering the pharmacy there is a plate-glass mirror on each side of the door six feet high, and from the desk, which is situated behind the west window, by the aid of these mirrors the whole work of the pharmacy can be superintended. The pharmacy was opened in November 1909.

IN FINLAND.

The population of Finland consists chiefly of the Finns proper (about 2,350,000) and the Finlanders of Swedish descent (about 350,000); but in the large cities there is a considerable number of foreigners, chiefly Russians and Germans, and on this account the capital, Helsingfors, a fine modern city with 125,000 inhabitants, has quite a cosmopolitan aspect and has been compared to an American city. The Finlanders have a reputation for being enterprising, progressive, and ready to adopt modern methods. The last characteristic is particularly noticeable in regard to pharmacy. Finnish pharmacies compare well with those of other Continental countries. In appearance as well as in character they much resemble those of Sweden; indeed, the influence of Swedish culture is apparent everywhere,



MR. STRANDELL'S GALENICAL LABORATORY.

and, although in the minority, and in spite of political vicissitudes, including the loss of Finland to the Russians in 1809, the Swedish element still plays an important rôle—especially in science, art, and literature. The majority of the pharmacists are of Swedish descent. As in Sweden the number of pharmacies is limited by the State Medical Council, which alone has the right to grant new concessions, and the pharmacists are practically civil servants (owners and assistants alike), the latter being appointed owners according to seniority and merit as vacancies occur. These concessions are neither saleable nor transferable in Sweden, and return to the State upon the death of concession-holders; while in Finland they may be disposed of to other pharmacists at the discretion of their owners, and others are under the direct control of the State. With the primary object of eliminating the spirit of commercialism which under this system the speculation in saleable concessions is said to foster, the Finnish Government is about to introduce radical reforms on the lines of

the Swedish system of so-called personal concessions, and the matter has already been placed in the hands of a specially appointed commission.

The average Finnish chemist still makes his own galenicals, and takes as much interest in his laboratory as in the pharmacy itself, as may be judged from the photographs which are selected from a series sent to us by Mr. I. Strandell, apotheker, Obo (the ancient capital of Finland, a small town with 46,000 inhabitants).

Mr. Strandell's laboratory is provided with all the necessary apparatus for the manufacture of galenical and pharmaceutical preparations on a fairly large scale. A corner of it is seen on page 170 with boiler, stills, pans and



ANALYTICAL LABORATORY.

fume-chamber. There is also an analytical laboratory, fitted elaborately with up-to-date apparatus and instruments. The pharmacy itself has a very attractive appearance, and, as will be seen from the accompanying illustration, the counter is fitted with a heavy brass railing which



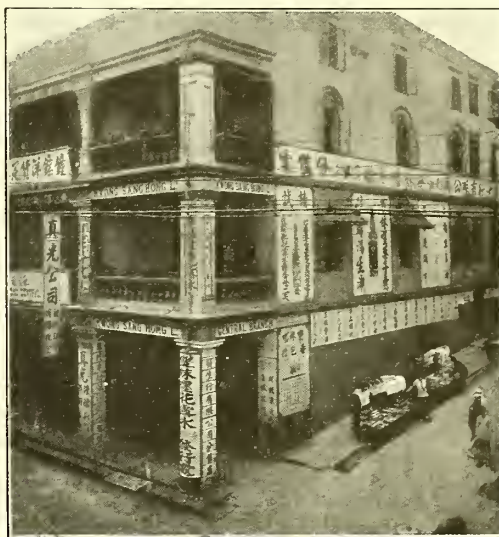
INTERIOR OF THE PHARMACY.

prevents customers leaning upon the glass-topped counters, below which are displayed the more attractive medical sundries and invalids' requisites. There is a desk at the door side of the counter, another at the angle of the two counters, a cash desk at the extreme left, and one on the weighing table behind. The fittings are exceptionally handsome, the special case in white particularly so. The pictorial frieze is good, and the effect of the ceiling-decoration is enhanced by an electrolier of original design.

Regulations stipulate that the prescription, together with the name of the prescriber, patient, and dispenser, as well as the directions, must appear on the label, which is of the old-fashioned tie-on style. Mr. Strandell uses his typewriter for copying the prescriptions, and was the first in Finland to adopt this method. The original prescriptions must be retained and repeats be recorded.

IN CHINA.

We are indebted to Mr. E. A. Smith, Ph.C., who represents Messrs. C. J. Hewlett & Son, Ltd., in China, for several photographs of the premises of Messrs. Kwong Sang Hong, Ltd., whose head offices are in Des Vœux



CENTRAL BRANCH, QUEEN'S ROAD, HONG KONG.

Road and Wing Lok Street, Hong Kong, with two branches in that city, three in Canton, and other branches



BRANCH IN SEP PA PO, CANTON.

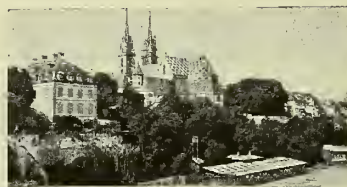
in Sik Loong, Fat Shan, Sik Ki, Kong Moon, Macao, Wuchow, Shanghai, Singapore, and Foochow. The company do a big business in drugs, chemicals, druggists' sundries, and other pharmaceutical goods. The photograph of their central branch in Hong Kong gives a good idea of the style, which is common to several other branches. The Canton branch (shown in the above engraving) has a frontage which gives a point to Western chemists in combining good display with economy of space. In front of each show-window and against the wall is a mirror. The left window is devoted chiefly to toilet articles, such as dentifrices, Zepto, and frozen cream. The right window is medicinal, but soothers and trusses indicate that the Chinese are not free from European afflictions. The internal fittings are good; indeed, Messrs. C. J. Hewlett & Son inform us that they have recently fitted up several Chinese chemists' shops with recess-label bottles equal to any West-End of London pharmacy.

Pharmacy Notes in Bern & Bale

by
William
Maskew
Ph. C.



BERN



BALE

THE Alps in winter! Often had I read of the allurements and charm of a Christmas holiday in Switzerland, and had wondered how a nerve tonic of cold, dry, bracing air, combined with sunshine and exhilarating exercise, would act on my constitution. A chat on the subject with Mr. H. Jenkins—long associated with the firm of Allen & Hanburys who has spent several winters in Switzerland with his family—settled the matter. Together with my wife and a dentist friend we joined with Mr. Jenkins' family and a few other friends to the number of twelve. This arrangement had advantages in many ways, and also enhanced our pleasure at the social functions which form an important part of Swiss hotel life.

My previous personal knowledge of the country was limited to the summer months and the district around Lucerne, but I was well aware that the Alps in winter are incomparably finer than in summer. The outward journey was uneventful. At Interlaken there are two railway stations, and it is necessary to change from one to the other, which we did on foot, thus getting a glimpse of the town. I noticed a few well-ordered pharmacies, and I understand that numerous prescriptions are sent to Interlaken from the smaller towns and outlying villages to be dispensed, many of these places only possessing a licensed "Droguerie," whose sphere of action does not allow the filling of prescriptions. We secured our seats in the mountain train, the officials of which, seeming to be familiar to us, as the letters "B.O.B." appeared on their caps and uniforms, interpreted "Bernese Oberland Bahnhof." Our destination

AT GRINDELWALD,

the Hôtel Alpenruhe, is close to the station, and at the time of our visit was accommodating some 230 guests. Every attention was given us on arrival and throughout our stay. An Amusement Committee was selected the following day, which arranged a series of concerts, lectures, whist-drives, fancy-dress balls, and other after-dinner distractions. During the day Dame Nature provides all that is needed for the constant change of outdoor sports, ski-ing, bob-sleighing, skating, and tobogganing proving the most popular pastimes. Our first desire was to explore the extent of the Grindelwald Valley, which is twelve miles long. In a horse sleigh, with its soft gliding motion and tinkling of bells, we visited without fatigue many scenes of rare beauty, such as the "Ober" and "Unter" glaciers, the ice caves, Lauterbrunnen and the Staubbach Falls. The Interlaken road runs almost parallel with the mountain river, the Lutschine; here and there were frozen waterfalls with hundreds of pendant icicles ranged tier above tier till lost in the snow-clad peaks above; the trees, covered with frozen snow, glittered in the sun, while the magical refraction afforded to the surroundings varying tints of mauve and pink in contrast with the sparkling whiteness of the heights of the Wetterhorn and the Eiger. The population of Grindelwald is about 4,000, but the influx of visitors during the eight or ten weeks of both the winter and summer seasons is very large; it is therefore somewhat surprising that no apotheker or pharmacist is established in the town. The duties of the

pharmacist are divided between the two doctors and the proprietor of the licensed droguerie, Mr. F. D. Holzgang, who appears to have a very progressive business, his establishment externally being a replica of an English pharmacy. One of the doctors has rooms above the druggist's, and convenience to the public appears to result from this arrangement. According to the Swiss pharmacy regulations druggists must serve a two-years' apprenticeship, and before they are licensed to open a shop they must be recommended as regards respectability and character and pass a modified examination, which is not of a very stringent character, and includes as the chief subject the recognition of those substances which they are allowed to sell. Many of these are Pharmacopœia preparations, and in the official regulations are tabulated as Schedule D. In this list are ether, alum, alcohol, tinctures of benzoin, iodine, and myrrh, Goulard's extract and water, carbolic acid and lotion, colloidion, opodeldoc, castor oil, as well as several ointments and simple chemicals, such as magnesia, saltpetre, and bicarbonate of soda. These he must obtain from a registered Swiss apotheker. He must also conform to certain regulations as regards labelling and storage. The turnover of these drogueries is greatly augmented by the sale of perfumery, photographic goods, colours, and other products used for technical and commercial purposes. Mr. Holzgang's establishment is very neatly fitted, the shop-rounds and jars having vitrified labels. The shop is double fronted, and one window contained toilet preparations, perfumes, and an assortment of whiskies and brandies; in the other window was photographic apparatus, etc. An assistant is fully occupied in the season with the developing of customers' films and plates. The more complex galenicals, medicinal preparations, prescriptions, and tablets are supplied by the doctors, and there is no doubt that should an apotheker establish in the neighbourhood he would find that he was not altogether unopposed.

The three weeks at Grindelwald passed all too quickly, the holiday having proved most enjoyable and invigorating. We decided to break our journey homeward at Bern and Bale, and if I may make a confession, the

MEDIEVAL TOWN OF BERN,

with its museums, quaint pharmacies, and fusty curio-shops proved a much greater pleasure to me than did the fascinations of skates, sleighs, and toboggans. We soon felt at home in the Swiss capital, and were comfortably installed at a large hotel near the station, and in close proximity to the Institute of Pharmacy. Having letters of introduction to more than one member of the craft, I set out the next morning with my camera with the express object of being able to illustrate these notes. There is plenty to interest the pharmacist at Bern, which is the seat of the Swiss Federal Government and also the centre of the International Postal Union. To commemorate this latter a strikingly original monument has been erected. In this the various nations are represented by classical figures, each handing on a letter in its course round the globe. In the

old parts of the town the streets are flanked with arches of massive masonry. These tend to darken the shops, though



THE MONUMENT OF THE INTERNATIONAL POSTAL UNION, BERN.

they favour the pedestrians in wet and hot weather. Among the other characteristics of the city are the curious fountains usually situated in the centre of the streets. These date from the sixteenth century, and lend an antiquarian air to the surroundings.

The most popular monument in Bern is a clock-tower, built in the fifteenth century as a west gateway to the city, but now in the very centre of business life. The curious clock on the east side of the tower proclaims the approach of each hour by the crowing of a cock. Then a procession of bears march round a sitting figure. Father Time turns the hour glass, a figure strikes the hour on a large bell, and more processions of bears and cock-crowing complete the horological performance. The bear is the heraldic emblem of Bern, therefore Bruin's effigy is sculptured and painted and seen everywhere. On the right bank of the Aar is the bear-pit, where several bears are maintained at the cost of the municipality. Other sights of the city are the University, the fine Gothic Minster, the Rathaus or Town Hall, the Art, Alpine, Natural History, and Historical Museums, as well as the National Library with 120,000 volumes. Bern has a population of about 75,000 inhabitants, including about 2,000 students at the University. An official directory afforded me the information that there are 120 doctors, twenty-three practising apothekers, and twenty licensed drougeries. I called at the Institute of Pharmacy, the head of which is Professor Dr. A. Tschirch, the Hanbury medallist. As to this I may have the opportunity of writing later.

On leaving the building I directed my camera towards Tanner's Pharmacy, nearly opposite, which, owing to its proximity to the station, gets a good share of foreign customers. The proprietor specialises in homœopathy and electro-therapeutics. The light at the time was non-actinic, therefore my photo does not do the pharmacy credit.

Mounting a tramcar, I was soon near the most conspicuous pharmacy in the city, the Apotheke Rogg, No. 5 Zeitglochen, which enjoys a very central position, adjoining the famous clock-tower and near the principal tram terminus. The establishment is now conducted on behalf of the widow of the late M. Rogg. Mr. W. Mosimann is the manager. The pharmacy was established upwards of 200 years ago, and still contains many relics of old times, in spite of the introduction of modern and up-to-date ideas. In the centre of the *officine* is a large T-shaped working counter, around which the customers can promenade if they so desire, and thus become acquainted with the mysteries of compounding. Small drug-drawers form a kind of dado around the pharmacy. The manager confessed he much preferred our system of a dispensing-counter isolated or screened from the customers. As frequently happens on the Continent, it is not necessary to adopt a foreign tongue at Rogg's.

The chief assistant, Mr. P. V. Klopffstein, has complete command of English, having spent some time on our tight little island. I hesitated at the orthography of his surname, and was handed instead of a card the address slip from his C. & D. postal wrapper. I was shown through the laboratories and envied a few old bronze mortars, which, though only occasionally used, occupy a prominent place in the establishment. In the windows were exhibited a few German proprietaries, such as "Puro" meat-juice, but Elliman's, Scott's, Somatose, and B. W. & Co.'s goods were fairly prominent too.

Retracing my steps to a new and residential part of the city—the centre of diplomatic and society life—I had no difficulty in finding the Schwanengasse. At No. 11 is the very fine high-class pharmacy of Mr. Ch. Bornand, President of the Pharmaceutical Society of the Canton of Bern. An excellent photo of the façade was given to me by the genial proprietor, and I may add that the interior arrangements have a quite dignified air. A plethora of stock of English specialities, somewhat of the kind required in Rue de la Paix, Paris, or in Bond Street, indicated the coveted *clientele* of Mr. Bornand. On the counter were numerous *ordonnances* awaiting dispatch. Three assistants are kept, and a large number

of cosmopolitan prescriptions are dispensed in the summer season. The fittings and show-cases are of oak, relieved with carvings. The glass-fronted counter extends across the pharmacy, facing the doorway. The private office of the proprietor is to the left. Mr. Bornand's stock of English proprietaries, in addition to being extensive, is also very varied and up to date. Formamint, Calox, Antiphlogistine, Vibrona, Bynin, Cuticura, Roborat, and Brand's Essences are specimen lines which caught my eye, as well as a range of B. W. & Co.'s and P. D. & Co.'s goods. The title on the fascia, "English Dispensing Chemist," is amply justified in this instance, but it is not always so on the Continent. Mr. Bornand's varied experience includes an assistantship in an International Pharmacy at Naples. He was initiated into English methods at Messrs. Wilcox, Jozeau & Co.'s, Haymarket, W., and he was also dispenser for some time at the French Hospital, London.

In this neighbourhood, at the corner of the Bubenberplatz and Spitalgasse, is the Apotheke B. & W. Studer, a



BERN CLOCK-TOWER AND ROGG'S PHARMACY.



MR. TANNER'S PHARMACY, BERN.

name long honourably associated with Bern. The excellent situation of this establishment naturally conduces to

aristocratic connection. Among the few specialities that I saw displayed in this pharmacy were Elixir Migranin, "High-Life" Toilet-rolls, Odol, Sirolin, Milk Somatose, and Hommel's Hematogen. Also in the Spitalgasse, opposite the Bagpiper Fountain, and somewhat screened by the colonnades, is the Apotheke Dr. K. Heuberger, a pharmacy which commands respect. The windows are not enclosed, so that a complete view of the interior is afforded the passers-by, and the pharmacy is thus better lighted than is usually the case. In the foreground I noticed a few familiar articles, including Apenta Water, Scott's Emulsion, and a "Tabloid" case, the general indication being that a high-class dispensing and retail trade is carried on.



MR. BORNAND'S PHARMACY, BERN.

Hastening back to the Kramgasse on Grande Rue, I halted at the "Ancienne Pharmacie Brunner," which is also situated under the characteristic arches. The present proprietor is Mr. G. Schmid. The interior is a model of order, neatly fitted, and spotlessly clean. Many of the proprietaries are stored out of sight, and no goods of any description are displayed in the window, in the centre of which, however, is a carved gilded eagle with outspread wings.

Crossing the street, I came to the Rathaus, or Cantonal Hall. This building was erected about 1406, and restored in the year 1862. A central doorway on the first floor is reached by two external covered flights of steps; these are highly ornamented with sculptured arms of the Bernese districts. In close proximity at No. 2 Kramgasse is one of the oldest pharmacies in Switzerland, the Apotheke beim Rathaus, occupying a large corner position. Its history dates back to 1446; the present proprietor, Dr. B. Studer, is a graduate of the Bern University. The accompanying illustration shows the exterior character which helps to maintain the antique appearance of the town. The interior of the pharmacy is divided into sections, each of which has a separate entrance. The one facing the Kramgasse is devoted to the retail, and, in addition to the usual apotheker's equipment, also contains many rare and valuable relics of the past; one of these, an ancient tiled stove, occupies a considerable space, and is part of the original structural framework of the building. The dispensing department occupies the remainder of the ground floor, and has its entrance in the Rathausgasse. The cornice surrounding the interior is ornamented with busts of early celebrities in pharmacy, medicine, and philosophy, while numerous pilasters are surmounted with highly polished brass mortars. Dr. Studer afforded me much information concerning the variation of pharmacy law relative to the different Swiss cantons. For instance, in the cantons of Bern and Bâle an apotheker may not carry on his calling except as an individual, whereas in the cantons of Geneva, Zurich, Vaud, and Schaffhausen co-operative pharmacy is allowed, and in some of the larger towns in these cantons the competition is in consequence very keen. In the French cantons Neuchâtel, Geneva, and Vaud, doctors are prohibited from dispensing, but this rule does not maintain throughout the country. In the German parts of Switzerland there is a different pharmacy law in each canton.

Dr. Studer being called away, I had a pleasant chat with Mr. Alfred Knapp, his chief assistant, who is a qualified apotheker with the Munich diploma, and is already known to *C. & D.* readers as the contributor to the 1909 Educational Number of an article on "How to Become a Continental Pharmacist." Mr. Knapp's accomplishments are not confined to his profession, for, in addition to holding certificates for science, mechanics, and photography, he also finds time to act as secretary to a movement which enjoys the title "The International Order of Ethics and Culture," and has for its object the solution of the most difficult social and religious problems of the day. The "Order" already includes among its members numerous well-known professors in different European Universities.

Having an available hour on the morning of my departure, I exposed a few films, one of which illustrates the Pharmacy W. Volz, 2 Zeitglochen, at the east side of the clock tower. The premises are situated at a good corner, and are painted white, relieved with bright blue. This striking style of mural decoration is extremely popular in Bern, some of the buildings having most elaborate ornamentations. A good example is seen opposite Mr. Volz's pharmacy, at the corner, occupied by Giraud's Droguerie, and another fine specimen is the façade of the Hôtel de Sauvage in the Aarbergasse. Adjoining this is the Apotheke J. Munch, with a droguerie attached. This pharmacy has a large frontage and several widows, which are put to more than average use. A good display of douches, bandages, surgical dressings, and the like gave an Anglican appearance to one of the windows, while Calfig, Sanatogen, Formamin, and other well-known specialities of foreign origin contributed to the interest of the others. Several other important apothekes would have been worth a visit had time permitted, and among them I may enumerate: Drs. A. Becheraz, Armin Kaisers, Julius Thomann, and Ducommun, Messrs. K. Dant, F. Gaudard, Lengacher, A. Lindt, Otto Jaggis, A. Moser Kunchel, Fritz Pulver, Vikt. Scholler, Walter Steck, Ad. Vatter, and Haaf & Cie.

AT BÂLE

there is plenty to see in the shape of museums, churches, and monuments. During the past decade narrow streets and alleys (among them many old landmarks) have been



DR. STUDER'S PHARMACY, BERN.

replaced by fine lofty buildings and open spaces. Bâle is an important railway centre, and has been described as the Golden Gate of Switzerland. The population is about 125,000. Its importance as the centre of the Swiss chemical industry is shown by the fact that the total imports of chemists' sundries, materials, and colours amount to two and a half millions yearly; rather more than half this amount is made up of manufactured chemical products. Of the imports about 80,000*l.* come from the United Kingdom. Many of these chemical substances are exported as colours to the value of 800,000*l.* yearly. Few factories are to be seen in the city, which is agreeably picturesque. Perched partly on the hills, the city gently rises above the Rhine, and the graceful twin spires of the cathedral are a characteristic of the panorama as seen from the river.

The Rhine is crossed by four fine bridges; one of these, known as the Middle Bridge, built in 1903, replaces the wooden structure of 1225.

There are twenty-eight apothekers in practice at Bâle, and of those cultivating an English connection Mr. A. Bruttner, of the Markt Apotheke, 30 Markt Square, is prominent. Mr. Bruttner keeps a full range of pharmaceutical proprietaries, mineral waters, and sanitary ap-

of old world grandeur being given to the establishment by a fine gilded screen, which divides the dispensing department from the retail. This valued specimen of wrought iron is the work of an early and skilled artificer in metals, and bears the date 1638. It is emblematical of the apothecary's art, the supporting figures representing Æsculapius and



MR. WILLEN'S PHARMACY, BÂLE.

pliances. The St. Jakobs Apotheke, 68 Aeschenvorstadt, near the fountain, is a place where all homœopathic preparations can be had. Mr. C. Hermann's Central Pharmacy is also well stocked with English medicines. This pharmacy occupies a good position at 13 Central Bahn Platz (or Station Square), and overlooks some well-laid-out gardens. The Adler Apotheke is more typically Swiss, and,



MR. NOACK'S PHARMACY, BÂLE.
(With Sarbach's fountain in foreground.)

though unassuming from an architectural point of view, enjoys an almost exclusive dispensing connection. I illustrate this pharmacy, the owner of which is Mr. L. Willen. Opposite the Central Post Office, at the corner of the Rudengasse, is the Golden Apotheke, enjoying a unique position and a large and varied connection. The proprietors, Drs. H. & P. Geiger, in addition to their qualifications as apothekers, have the degree of Ph.D. This pharmacy is spacious and lofty, and fitted in a stately character, a touch



MR. VOLZ'S PHARMACY, BÂLE.

Galen. The reproduction, given as a tailpiece to this article, is from the design used on the firm's envelopes.

Dr. P. Geiger, with whom I spent an interesting half-hour, has carefully cultivated the dispensing side of the business, and his personality has gained him the confidence of many medical men. His English experience was gained



DR. ENGELMANN'S PHARMACY, BÂLE.

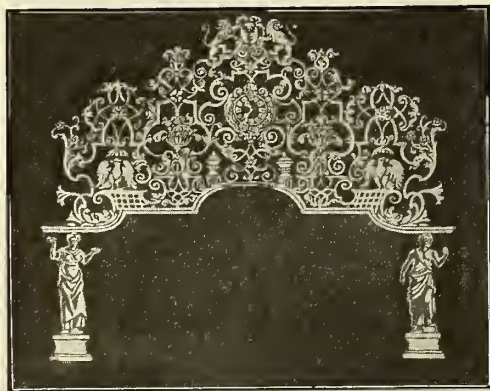
in Regent's Park Road. Some excellent specialities have their origin at the Golden Apotheke; they include "Cacaofer," "Frangula Elixir," "Turgol Wein," and "Wybert-Tabletten." I was particularly interested in two automatic appliances for supplying solutions of radium, which, being silver-plated, were conspicuous ornaments on the counter. Dr. Geiger explained their mechanism and use. Of these the smaller one, the "Trink" emanator, yielded at each turn of the handle about 45 grams of the liquid for

internal use, while the larger one supplied about four times the quantity, sufficient to charge one bath; this is known as the "Bade" emanator. The machines are supplied by a Charlottenburg firm, who take the proceeds, but they credit the apotheker with about 25 per cent. of the returns. The apotheker has to replenish the supply of distilled water, which becomes charged so that each 75 grams is equal to 50,000 units of radium emanations. Medical men recommend this radium treatment for neuralgia, rheumatism, and allied maladies. Some six or seven of these machines are in use in the city of Bâle, but in parts of Germany they are even more popular.

In the Fishmarket Square is the well-known apotheke of Mr. Karl Noack, who conforms to the Swiss style, and does not specially cater for Britishers. In this square there is a fine Gothic fountain, the work of the fifteenth-century sculptor, James Sarbach, which is illustrated, together with the pharmacy.

Crossing the Rhine by the Mittlerebrücke, a few minutes' walk brought me to the famous old-established Engelmansche Apotheke, at the corner of the Untere Rheingasse. Dr. Engelmann is an antiquary of note, and is known to many connoisseurs on this side of the Channel. The survey of his collection of drug-trade relics was an item of greatest pleasure to me. The photograph on p. 175 best describes the pharmacy. No attempt has been made to modernise it architecturally. The ground floor is 2 to 3 ft. below the footway. In each of the small windows are two large antiquated and unlettered specie-jars. They contain colocynth, Calabar beans, nux vomica, sarsaparilla, cassia fistula, and similar materia medica. The interior fittings and equipment exactly harmonise with the external surroundings; even the porter who was engaged in the daily polish-up must have seen at least fourscore summers. Dr. Engelmann's professional connection is apparently large. At the time of my call he was busy, but, in spite of this, he escorted me to the uppermost storey of his dwelling, where, in a locked room, specially set apart, was the much-envied collection of bronze mortars and apothecary's jars. Many of the specimens date back to the Renaissance period. One of the finest mortars was dated 1537. The drug-jars include Italian majolica, as well as Swiss, French, and Delft faience. The collection is supplemented by several sets of apothecary's weights, each in a small handled *étui*, also a few long-necked pharmacy vases originally intended for aromatic waters. The library of Dr. Engelmann also deserves notice, and he is not by any means unknown in our London sale rooms as a buyer of rare books. The doctor pointed out a set of shop-rounds, still in actual use, but made of wood. In these such things as pimento, piper alb., and pulv. caryoph. are kept.

This article would be incomplete without mentioning some of the Bâle pharmacies which for want of time and space at disposal I am unable to describe. These are owned by Drs. E. Bloch, J. A. Haefliger, E. Katz, P. Kochlin, C. E. Markees, Nieuhaus, Wilh. Oser, and Beda Schenermann, St. Albanapotheke, Rosenapotheke: Messrs. Heer & Cie., G. Albrecht, C. Ehniger, S. Fellmeth, T. Knapp, W. Kratz, H. Rordorf, E. Steiger, J. C. Vitek, O. Vuillermier, L. Wetterle, W. Wittig, and F. Brieden-Jundt.



A RARE DISPENSING-SCREEN.

(Seventeenth century metal-work in Geiger's Pharmacy, Bâle.)

Practical Notes and Formulae.

Copper Citrate

is soluble with difficulty, but the solubility is increased by the addition of $\frac{1}{2}$ to 3 per cent. of sodium chloride and borocitrate. By this means it is easy to obtain a 1-per-cent. solution of copper citrate. A soluble copper citrate prepared in this manner is known as *cusol*. The solution is used by oculists and in the treatment of skin diseases.—*Wiener Klin. Rundsch.*

Hair-tinting.

"LA NATURE" states that a simple solution of lead acetate, 5 grams in a litre of perfumed water, will change the colour of white hair little by little, from light brown to grey black if used constantly. The action is due to the formation of lead sulphide with the sulphur of the hair—keratine contains 8 per cent. It is necessary to guard against lead-poisoning, as some people are extraordinarily sensitive to this metal.

Mosquito Tincture.

FOR the bites of mosquitoes and similar insects the following solution is used, a little being applied to the spot by means of the cork or a pledget of cotton-wool:

Formalin	...	...	...	15 grams
Xylol	...	...	...	5 grams
Acetone	...	...	...	4 grams
Canada balsam	...	...	...	1 gram
Perfume	...	...	...	a sufficiency

Smoke Essence,

for rapidly giving hams, bacon, and fish the flavour and appearance of having been smoked, usually consists of pyroligneous acid. "The Lancet" has recently examined a sample and found it to consist "chiefly of creosote, aniline dye, and a salt of iron." "The Lancet" objects to the presence of the aniline dye, but admires "the ingenuity of the inventor of a mixture who puts into it a salt of iron, which is calculated to give a side of bacon an appearance of natural rustiness."

Spiritus Asparagi Compositus.

Compound Spirit of Asparagus.

Asparagus seed	...	...	...	1 oz.
Parsley seed	...	...	...	1 oz.
Black haw	...	...	...	2½ oz.
Henbane leaves	...	...	...	200 gr.
Compound spirit of orange	...	...	...	4 dr.
Diluted alcohol	...	...	...	a sufficient quantity

Reduce the drugs to powder and percolate with diluted alcohol to make 15 ½-ounces, to which add the compound spirit of orange.

—*Canadian Formulary.*

Terpin-hydrate Solution.

MR. F. W. A. HAIN gives the following formula for "Solutio terpin. hydrat. comp." in the "Bulletin of Pharmacy":

Terpin hydrate, powdered	...	...	25 grams
Hot glycerin	...	...	650 c.c.

Stir until dissolved. When partly cooled add:

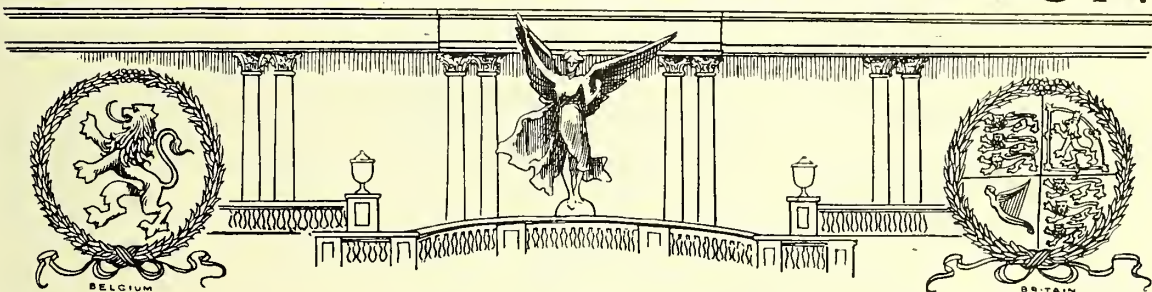
Fluid extract of wild-cherry bark	62.5 c.c.
Alcohol	235 c.c.
Glycerin to	1,000 c.c.

Contains 0.1 gram (about 1½ grains) of terpin hydrate in 4 c.c.

Disintegration of Tablets.

A METHOD of preparing disintegrating tablets is described by Drew ("Monatsh. f. Prakt. Dermat."), in which a small proportion of gelonide is incorporated with the medicaments before compression. Gelonide is prepared by the action of formaldehyde on gelatin. The horny mass (trioxymethylene gelatin) that results is easily powdered and absorbs water with great avidity. If mixed with the medicaments for tablets before compression, in the proportion of 10 per cent., the tablets are burst asunder on contact with water. The proportion of formaldehyde in each tablet is so small as to be negligible.

BRUSSELS EXHIBITION



BRUSSELS, the capital of Belgium, is this year one of the brightest and busiest of the European cities. It is the venue of an International Exhibition, which is attracting crowds of people from all parts of the Continent. The exhibition-ground is situated at Ixelles, adjoining the Bois de la Cambre, to reach which one traverses the beautiful Avenue Louise. There is an excellent tram service at Brussels, and those trams which take passengers to the Exhibition are clearly indicated. If one takes a tram at the Bourse the journey occupies about twenty minutes. Brussels this year is, in consequence of the Exhibition, attracting a good deal of attention, and the municipality are showing an exemplary civic spirit, which is helping to render the city acceptable to visitors. There is, for instance, a special kiosk just outside the Bourse where strangers may obtain information regarding lodgings and conveyances, and on alternate evenings the thoroughfare running from the Nord station to the Midi station is brilliantly illuminated by a system of arches, which consist of designs in various coloured electric lights. On the other evenings the Parc is illuminated. The buildings of the Exhibition are open until six o'clock, but the grounds remain open till a late hour, and are brightly illuminated. The whole Exhibition is open on Sundays, when enormous crowds of people are drawn to Brussels and the Exhibition.

The British Section.

It will be remembered that in 1906 the President of the Board of Trade appointed a committee to make inquiries with reference to the participation of Great Britain in international exhibitions. The examination of witnesses brought into prominence the differences of opinion that exist regarding the advantages of exhibitions, and showed the Committee that the main point is whether, under modern conditions, this country can afford to abstain from participating in exhibitions. The evidence afforded convincing proof that the answer to this question is in the negative. The upshot of the report was the organisation of a permanent Exhibitions Department in connection with the Board of Trade. The official participation of this country in international exhibitions is not, of course, a new departure. Since 1853 the Government has been officially represented at twenty-two exhibitions, and grants have been made from the public funds amounting to approximately 640,000*l.* The grant on account of the Paris Exhibition in 1900 was 97,033*l.*, and for the St. Louis Exhibition of 1904 128,000*l.* The difficulty hitherto has been the delay in getting to work, caused by the ponderous routine needed for appointing a Royal Commission. It has generally been found that the best spaces had been allotted long before this country was in a position to consider the apportionment of space; but this year the new policy has provided the United Kingdom with a position second only to that of Belgium. Never before has this country afforded such a creditable display in a foreign country, and praise is certainly due to the Exhibitions Department for the way the work has been carried out. It must be remembered that the Department is new to the work, so that we expect even better results at Turin in 1911 and Tokyo in 1912.

The decoration of the British section is distinctive and dignified. The architecture is in pure Corinthian style, the columns and walls being painted white, the light toned down

by pale blue curtains, and the floor covered with pale green linoleum. The entrance to the section, which is through an archway 38 ft. high, is near the main entrance to the Exhibition, and at the further end of the section a fine effect is obtained by a bridge passing over the Avenue de Solbosch and connecting the British and French sections, which has been utilised to great architectural advantage. On the top landing of the bridge is a fine plaster cast of the figure of "Victory," which is to form a conspicuous feature of the Victoria memorial in front of Buckingham Palace.

There are in the British section altogether 350 exhibits, representing some thousands of firms of high-standing. Collective displays, which were tried for the first time by this country in the chemical exhibits at St. Louis, are made by several important trades, and the series of tableaux arranged by the worsted and woollen manufacturers is one of the features of the Exhibition. All the British exhibits are arranged together, with the exception of heavy machinery, which is to be found in the centre of the International Machinery Hall. The Board of Agriculture and the Factory, Mines and Explosives Department of the Home Office have important exhibits, and are attracting much attention in a country where agriculture and coal-mining are the chief industries. Much more of great interest could be written about the general exhibits, but this journal is chiefly concerned with the

Chemical and Pharmaceutical Products.

The Committee which arranged this section consists of Sir Boverton Redwood (Chairman), Dr. G. T. Beilby, Mr. J. F. L. Brunner, Mr. C. P. Gosnell, Professor Vivian B. Lewes, Mr. T. D. Morson, Dr. F. Mollwo Perkin, Mr. Walter F. Reid, Mr. A. Gordon Salamon, Mr. T. Tyrer, and Mr. C. Woodall. As mentioned above, the collective exhibit system was employed for the chemical section at St. Louis, but at Brussels this system has been extended to other manufactures, and has been abandoned in the chemical group. There are altogether fifty-seven show-cases devoted to chemicals, pharmaceutical products, essential oils, perfumery, and explosives. These are either wall-cases or detached cases, but are uniform in style—teak, lettered in gold—and are not unduly crowded as are the exhibits of some of the other countries. We give in alphabetical order our representative's notes on the exhibits inspected.

STAFFORD ALLEN & SONS, LTD., London. This exhibit is situated just to the left of the entrance to the British section, and consists of essential oils distilled from plants grown at Long Melford or distilled from exotic raw materials; medicinal herbs and green extracts, expressed almond, apricot and croton oils and pure powdered spices. The pinnacles of the show-stand are surmounted by pear-shaped carboys of almond oil, peach-kernel oil and clove oil, all of crystal clearness. At the corners of the next tier are tall jars of lavender, sandal-wood, croton and peppermint oils. The crude drugs grown by the company and shown in the case are rosemary, digitalis, dill, savin, taraxacum, rhubarb, valerian, chamomile, belladonna (root and leaves), henbane leaves, and aconite root. Scale preparations are shown, and also podophyllin, aloin, jalapin and elaterium, many fluid extracts and juices.

BIRMINGHAM DENTAL SUPPLY AND MANUFACTURING CO., LTD., Walsall, show artificial teeth and photographs of the method of sorting.

BORAX CONSOLIDATED, LTD., 16 Eastcheap, London, E.C., exhibit borax products in ornamental forms and in vases

example of the company's special study of the requirements of the dispenser. (2) Galenical preparations with specimens of the crude products from which they are prepared. (3) Pharmaceutical fine products, capsules, tablets, pills, and lozenges; and (4) proprietary specialities such as Eau de Menthe de Dal-mahoy, Otango, Ficolax, Frozen Foam, and Dermogen soap. It is a most creditable representation of British pharmacy.

BRUNNER, MOND & Co., LTD., Northwich, Cheshire.—This is a characteristic exhibit of alkali and soda products. Metal, zinc and cadmium, bleaching powder, ammonium carbonate and ammonium chloride are shown. The last-named is in the form of buttons (voltoids) and bars (salamac). The exhibit is, in a sense, an exposition of evolution and progress in the ammonia-soda process.

THE BURMAH OIL CO., LTD., 175 West George Street, Glasgow, show paraffin and its products. These include paraffin wax, petrol, naphtha, and numerous kinds of lubricating oils.

BURROUGHS WELLCOME & Co., Snow Hill Buildings, London, E.C., have a characteristic exhibit in a prominent position, which is intended to show and record the scientific achievements in the various departments of the business. The arrangement of the case is very striking. For instance, tabloid products are displayed in a series of Grecian vases suspended in circles from the top of the case, and beneath are a series of cruciform glass shelves. In the centre is an aluminium figure of the unicorn trade-mark of the firm, and on the floor of the case is an historical collection of medicine chests. Among the fine chemicals shown are aconitine, ergotinine, can-



GENERAL VIEW OF THE CHEMICAL INDUSTRIES SECTION.

tharidin, piperine, atropine, laudanoline, lodal, cocaine, quinine salts, and bismuth in crystal form. In other positions are to be found various tabloid and soloid products, enules, vaporoles, and scale preparations.

BRADY & MARTIN, LTD., Newcastle-on-Tyne.—This exhibit is of four main classes of goods: (1) pharmaceutical preparations, (2) hospital furniture and surgical instruments, (3) x-ray outfits, (4) chemicals and physical apparatus. The company were the earliest makers in Great Britain of animal extracts for therapeutic use, and samples of these and other modern therapeutic agents are prominent in the excellently arranged display.

THE BRITISH ALUMINIUM CO., LTD., 109 Queen Victoria Street, London, E.C., show aluminium in all its forms.

THE BRITISH CYANIDES CO., LTD., 49 Queen Victoria Street, London, E.C., show sodium cyanide and ferrocyanides of sodium and potassium. The prevailing tone is yellow, and there is a huge crown of potassium ferrocyanide in the centre of the case. The company's speciality is sodium cyanide, which is prepared from sulphocyanides, by-products in the gas industry, by liberating hydrocyanic acid with nitric acid or hydrogen and absorbing the gas by caustic soda.

THE BRITISH DRUG HOUSES, LTD., Graham Street, London, N., have a good exhibit, which is divisible into four main sections: (1) Chemicals. These are the "P.P.P." or "Bird on Gate" brand goods, to which reference has been made in these columns. The non-deliquestent potassium citrate may be cited as an



FOOD PRODUCTS SECTION.

W. J. Bush & Co., LTD., Ash Grove, Hackney, London,

N.E., have a good exhibit of essential oils, fruit essences, soluble essences, food colours, and synthetic perfumes. The case is lined with French grey velvet, and contains also photographs of the works and branch establishments. The essential oils are distilled at Ash Grove (cloves, copaiba, sandal-wood, cinnamon, etc.); at Mitcham (peppermint,

right to disinfectants. The last-named consists of Co-fectant, and its preparations such as ung. cofectant, lozenges and membroids, and there is a table showing the analytical comparison of Co-fectant with other disinfectants.

THE ERASMIC Co., LTD., Warrington, have a show in the chemical group and another on the bridge at the back of the British section. The soap bubble fountain, which was shown in Chicago and London, is the feature of the second exhibit, and common to both are Erasmic soap and Fresson d'amour, Extasia, Fantasma, and Rose of Lancaster perfumes. Judging by the constant round of customers, we should say that the Erasmic Company's products will be almost as well known in Belgium at the end of the Exhibition as they are in the United Kingdom.

THE GAS LIGHT AND COKE Co., 4 Fenchurch Avenue, London, E.C., exhibit the principal by-products of gas manufacture and the derivatives which are of industrial value. The crude products, tar, ammoniacal liquor, spent oxide and cyanogen liquor serve as a rough classification of the exhibits. Tar yields refined tar, light oil (from which is distilled benzol, toluol, and naphtha), carbolic acid, liquid creosote, and creosote salts (from which naphthaline is obtained. It is here shown in various colours, coal-tar bases (e.g. pyridine for alcohol denaturisation), anthracene oil (yielding "green" oil and anthracene, from which is derived alizarine), pitch and soluble creosote (for sheep dips and disinfectants). From ammoniacal liquor the ammonium salts

are made, whilst cyanogen liquor is the source of cyanides, ferrocyanides, and Prussian blue.

JOHN GOSNELL & Co., LTD., Blackfriars Road, London, E.C., have an imposing exhibit, with an attendant to answer inquiries. The perfumes shown are "Cherry Blossom," "Violette Sublime," "Famora," "Jewel of Asia," the "Sublime" series, "Society" perfume and "Society" eau de Cologne. A giant pot of "Cherry" tooth-paste reminds one of the company's original speciality supplied in tubes as well as pots.

JEYES' SANITARY COMPOUNDS Co., LTD., 64 Cannon Street, London, E.C., have an octagonal stand, to which attention is drawn by bright red drums of Cyllin. The germicidal properties of Cyllin have been verified by the Belgian Government Department of Hygiene, and a statement in several languages of the bactericidal properties of the disinfectant is being circulated at the stand. Cyllin preparations (medicated lint and cotton, for example), Jejes' foot-rot ointment and foot grease, Jejes' telephone cap and spray disinfectant are also shown.

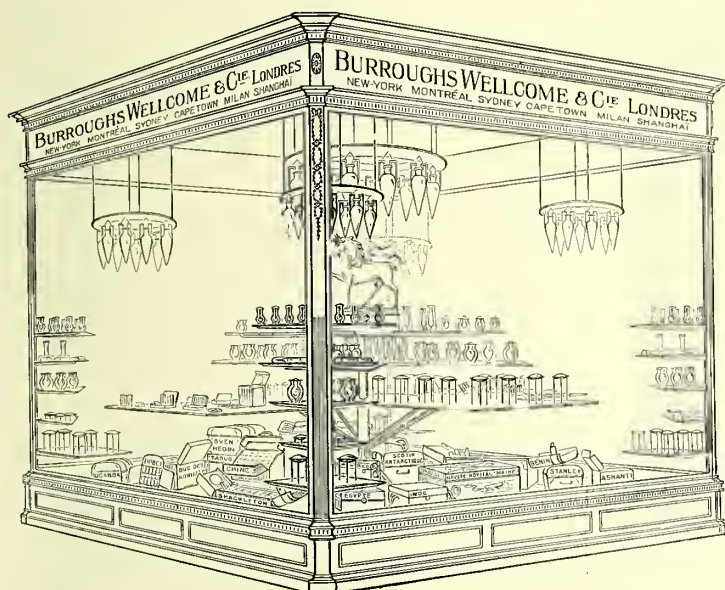
JOHNSON MATTHEY & Co., LTD., Hatton Garden, London, E.C., have a costly exhibit of the precious metals and their salts, besides examples of fused silica ware.

JOHN KNIGHT, LTD., Silvertown, London, E., show soap-products and the raw materials from which they are made.

MORRIS, LITTLE & SON, LTD., Doncaster, show Little's sheep-dips (with directions in various languages), fly dip, foot-rot cure, Veneno Para Cueros, maggot-wash, phenyl disinfectant, antipest, pesticide, weedol, dog soap, and carbolic soft soap.

THE MOND NICKEL Co., LTD., 39 Victoria Street, Westminster, London, S.W., have specimens illustrating the production of nickel from nickel-copper ores by the Mond nickel carbonyl process.

T. MORSON & SON, 14 Elm Street, Gray's Inn Road, London, W.C., show fine chemicals for medicinal and chemical use. The top shelf in the case holds Lister's double cyanide, red iodide of mercury, podophyllin, chrysarobin, and scale preparations. Bismuth salts shown include sodii bismuthas, bismuthi subgallas, and bismuthi bi-naphtholas. Creosote, guaiaicol and their compounds (including krebisote, a combination of creosote and bismuth) represent another special manufacture of the firm;



ONE OF THE B. W. & Co. SHOWCASES.

lavender, etc.); at Grasse (lavender, thyme, rosemary, and concrete essences), Messina (lemon, orange, etc.), and Linden, New Jersey, (peppermint and wintergreen). The synthetic products made by the company include aubepin, coumarin, heliotropin, nerolin, musk, and vanillin.

THE CASSEL CYANIDE Co., LTD., 19 St. Vincent Place, Glasgow, show five vases, two containing 98-100 per cent. cyanide (double salt) and three containing 129-130 per cent. sodium cyanide.

F. S. CLEAVER & SONS, LTD., Red Lion Street, London, W.C., have a stand where their soaps and perfumes are sold.

EDWARD COOK & Co., LTD., Bow, London, E., occupy three of the wall spaces, and have divided their exhibit

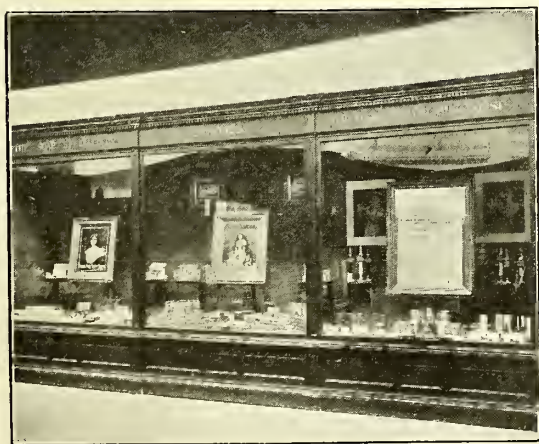
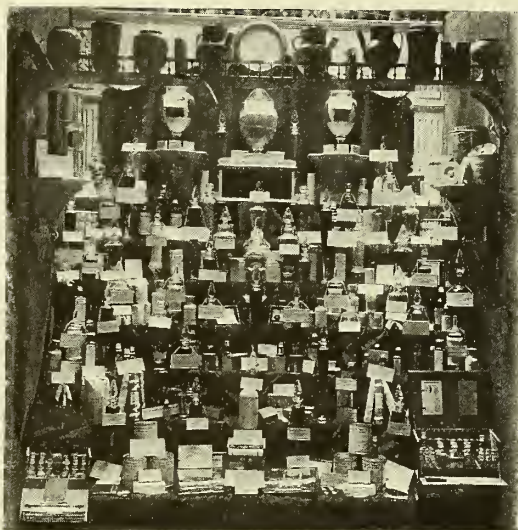


EXHIBIT OF E. COOK & Co.'s PRODUCTS.

into three parts. The centre is devoted to household soaps ("Lightning," "Primrose," "Topsail," and "Goldmead"), the left to toilet soaps ("Riviera," "Throne," "Dorina," and "Alicia") toilet soaps, "Solace" shaving-soap, Hygeos tooth-soap, Royalist tooth-powder and Lasso soap), and the

other important products include chlorbutol, thiosinamine, colalin, ol. fagi, gynocardic acid and iodides.

WILLIAM MARTINDALE, 10 New Cavendish Street, London, W., has a wall-case filled with samples of the special preparations of the house. The inscription "amyl nitrite



THE MARTINDALE EXHIBIT.

capsules" is composed of the capsules attached to a cloth. A set of the "Extra Pharmacopœia" from 1883 to 1908 is shown. At the top is a row of rare pharmacy pots and old pharmaceutical books. On the shelves are such specialties as coumaric derivatives, glyceptracts, solubes, nitroglycerin tablets, and tests cases for bacteriologists and analysts.

PEARSON'S ANTISEPTIC CO., LTD., Elm Street, London, W.C., have an exhibit in the grounds of Hycol fluid, Pearson's antiseptic fluid and Medol liniment, also toilet, household, and veterinary soaps.

PRICE'S PATENT CANDLE CO., LTD., Battersea, London, S.W., show candles chiefly, including night-lights for sale by chemists. Price's glycerin, introduced in 1855, is shown in various-sized bottles, and there is a good display of lubricating oils, such as "Sherwood" and Belmont cylinder oil. The toilet soaps include Regina and Ro-ti-sha, while the perfume side is represented by the Court Bouquet.

RECKITT & SONS, LTD., Hull, show Reckitt's blue, Zebra stove-polish, and Brasso metal-polish.

THE RIBBON METALS SYNDICATE, LTD., 50 City Road, London, E.C., illustrate a patented process of converting metals into ribbon form which was described in the *C. & D.* on its introduction.

THE "SANITAS" COMPANY, LTD., Locksley Street, Limehouse, London, E., show a full range of "Sanitas" specialties. The importance is emphasised of "Sanitas" as a non-poisonous germicide and oxidant. "Sanitas" pastilles, Zanol dentifrice, Kingzett's hydrogen peroxide, Sanitas-Bactox and Sanitas-Okol were other products to which our attention was called by the attendant.

SAPON, LTD., 24 and 25 King William Street, London, E.C., are showing "Ocean" soap for the first time. The materials with the exception of the alkali and water necessary for saponification are of vegetable origin, and we are informed that the process of manufacture from the raw material to the finished bars occupies only thirty to forty minutes, as against an average of fourteen days required by existing methods.

THE SCOTTISH MINERAL OIL ASSOCIATION, 30 George Square, Glasgow, show the products of all the shale oil companies in Scotland.

T. & H. SMITH, LTD., 22 City Road, London, E.C.—This exhibit embraces codeine and morphine and their salts as well as the rarer alkaloids found in opium. At the bottom of the stand are specimens of various opiums. There are large sample jars of the alkaloids referred to,

and a particularly fine specimen of caffeine. Morphine hydrochloride is shown in cube form. Scammony and jalap resins, cantharidin, aloin (discovered by T. and H. Smith in 1850), salicin, piperin, gingerin, and capsin are also exhibited in excellent quality and quantity.

THE SOUTH METROPOLITAN GAS CO., Old Kent Road, London, S.E., have a model of the Matterhorn made of pitch and ammonium sulphate—the two chief by-products of this company.

THE THERMAL SYNDICATE, LTD., Newcastle-on-Tyne, have a fine exhibit of fused silica ware, which is manufactured in an electric furnace, and sold under the name of "Vitresil."

THOMAS TYRER & CO., LTD., Stirling Chemical Works, Stratford, London, E., exhibit chemicals for use in pharmacy, the arts, and technology. The top shelf in the case finds place for a vase of syr. phosph. co., the next two shelves are devoted to the phosphates and hypophosphites, and the acids of phosphorus, with a beautiful specimen of metallic bismuth. Then follows a shelf taken up with bismuth salts, including the subgallate, naphtholate, tribromo-phenate, and lactate. The next lower shelf contains mercury salts, with a vase of metallic mercury at each corner. The lowest shelf is occupied by scale preparations and siccatives.

THE UNITED ALKALI CO., LTD., 30 James Street, Liverpool.—This company was formed in 1890 by the amalgamation of forty-four alkali makers, and hence the range of products made is very wide. To enumerate them would be to give a list of heavy chemicals, but it will suffice to mention the specialties: chloroform, Strawsonite ("Charlock" brand of copper sulphate), glycerin, pearl dust, pearl-hardening, Hazlehurst's "Red Maid" laundry soap, Cashmere toilet soap, and "Protector" carbolic soap, solubic (copper sulphate), "Diamond" soda, nitrolim, chloros, sulphur, sulphides, and sulphhydrates.

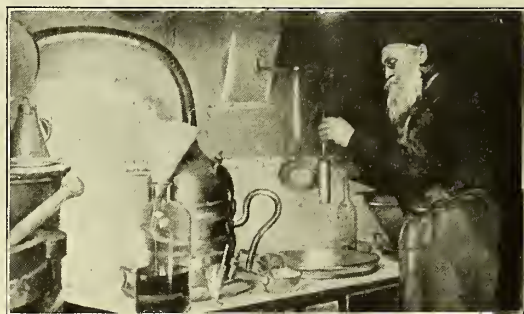
J. H. VAVASSEUR & CO., LTD., Ceylon House, America Square, London, E.C., show coconut oil and cinnamon lemongrass and citronella oils.

THE WELLCOME CHEMICAL RESEARCH LABORATORIES, 6 King Street, Snow Hill, London, E.C., and

THE WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES, Brockwell Hall, Herne Hill, London, S.E., have special show-cases near that of Burroughs Wellcome & Co. Special pamphlets (in English and French) descriptive of all the exhibits have been published by the firm.

WRIGHT, LAYMAN & UMNEY, LTD., Southwark, London, S.E., have an exhibit of pharmaceutical products and Wright's coal-tar soap, with other liquor carbonis detergens preparations. The two ends of the case are devoted to the last-named specialties, and the rest of the case is pharmaceutical in nature. There are physiologically tested ergot extract, and digitalis, squill, and strophanthus tinctures. Essential oils form a section, and include the terpeneless products and constituents such as geraniol and linalool. The diplomas of the directors are also shown, as well as three medals of the Pharmaceutical Society of Great Britain, the whole forming a good exposition of the company's wide range of practical interest.

We propose in a future article to deal with photographic and scientific apparatus and goods.



"LE LABORATOIRE DU PHARMACIEN."

(Picture by H. Fontaine in this year's Paris Salon.)

Cambridge Pharmacies and Pharmacists.

IN previous articles *à propos* of this week's visit of the British Pharmaceutical Conference to Cambridge we dealt with the town and University (*C. & D.*, May 21) and the Colleges (*C. & D.*, June 11). We now deal with the pharmacies and the men who direct them. A large amount of public dispensing is done at the Addenbrooke's Hospital and Medical Institute.

ADDENBROOKE'S HOSPITAL,

situated in Trumpington Street, is connected with the Cambridge Medical Schools. Clinical instruction is obtainable here by medical students, although, as a matter of fact, the practice is to obtain this in the larger field presented by the London hospitals. The foundation of the hospital is due to John Addenbrooke, M.D., who died in 1719 and left 4,500*l.* upon trust to purchase or erect a building "fit for a small physical hospital in the town of Cambridge for poor people." Litigation ensued, and it was not till 1753 that the building was commenced. It was not till 1766 that the hospital was finished, and the trustees found themselves with so little money in hand that they

obtained an Act of Parliament constituting a general hospital, for the maintenance of which subscriptions and donations were received. The first building was a plain square structure, and in 1822 the wings were added with a connecting colonnade. The hospital was remodelled in 1864 upon suggestions of Sir George Humphry, M.D. The number of beds is 158. The average weekly attendance of out-patients is about 700; on Saturday the number usually reaches nearly 300. The dispenser is Mr. W. J. Field.



MR. W. J. FIELD,
Dispenser at Addenbrooke's Hospital.

Field, who was appointed in 1901. Mr. Field was apprenticed with his father, Mr. E. Field, 30 Hills Road, Cambridge, and then obtained experience in private and public dispensing. He was for three years dispenser to the late Dr. Thomas Hyde Hills, Cambridge, brother of Mr. Walter Hills, London. Mr. Field passed the Minor in 1900. The dispensing at Addenbrooke's is of rather a different nature from that usually met with in public institutions, in that stock mixtures are very little used. This is better for the

dispensary important economies have been effected in the dispensary, and all galenicals are made on the premises. An x-ray apparatus was installed at the hospital in 1906, and Mr. Field, who had been trained in electrical work by his father, was given sole charge of the department. A few weeks ago a new electrical department was opened at the hospital with an outfit for x-ray work which has cost 250*l.* A 16-in. coil is used with a motor generator and Wehnell brakes, and current up to 35 amps. can be obtained. There is a modern search table, which can be moved about the



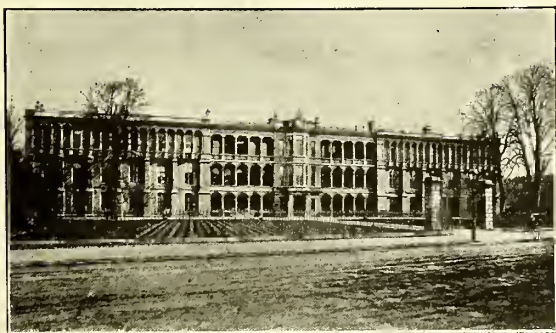
THE DISPENSARY, ADDENBROOKE'S HOSPITAL.

room at will, and patients can either sit or recline, as may be required. A time-switch is fitted, by means of which the current can be automatically cut off and a time exposure obtained. All the precautions provided by the most recent inventions are taken against injury to either patient or operator. The latter wears special ray-proof gloves, and the subject is protected by a lead-lined screen, with small glass windows, which, while impervious to the rays, enable the operator to watch the procedure. Dr. Shillington Scales is in charge of the new department, but Mr. Field is still the practising radiographer.

A large proportion of the public dispensing of the town is performed by Mr. Thomas J. Mallett, chemist and druggist, who eight years ago relinquished the retail and was appointed pharmacist to the Medical Institute in City Road. During the winter months Mr. Mallett thinks he is one of the busiest pharmacists in Cambridge, as the above institution has a sixth of the population as members. Over 50,000 prescriptions are dispensed annually by him. He is Assistant Hon. Secretary to the B.P.C. Local Committee and Hon. Secretary of the local Association.

MR. DECK'S PHARMACY

A few weeks ago, when Mr. Roosevelt, the ex-President of the United States, entered the pharmacy of Mr. Arthur Albert Deck, 9 King's Parade, Cambridge, he was probably not aware that he was dealing at one of the oldest established chemists' businesses in the town. The business was started by Mr. Arthur Deck on Market Hill in the eighteenth century, and he was a man of modern ideas, if one may judge from his advertisements in the local papers of 1805. His brother, Isaiah Deck, succeeded him and moved the business to King's Parade, its present position, in 1815. He was a man of scientific inclinations, and initiated the chemical-apparatus side of the business, which still remains one of the features. At a recent visit we were shown a "Philosophical Fumigating Lamp" and a Dobreiner's lamp bearing his name. Mr. Isaiah Deck died in 1851 and was succeeded by his son, Mr. Arthur Deck, who died two years ago. The present proprietor is Mr. Arthur Albert Deck, the Honorary Secretary of the Local Committee. Mr. Deck has had rather exceptional



ADDENBROOKE'S HOSPITAL.

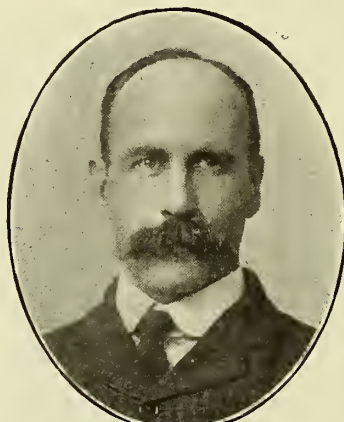
students as they are thus necessarily required to think out the ingredients for prescriptions instead of acquiring the "sloppy" method of ordering stock mixtures which is so disastrous to the interests of pharmacy when the student becomes a practitioner. Mr. Field conducts classes in practical pharmacy for the medical students. During his

experience in pharmacy. He was apprenticed at Young & Postans, Baker Street, London, and passed the Minor in 1884. He was afterwards an assistant with Squire & Sons, Oxford Street, J. H. Davenport, Great Russell Street, and

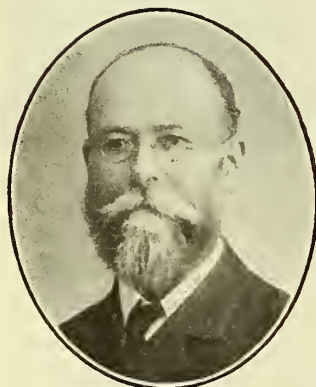
known of the Cambridge chemists because of his work in connection with the British Pharmaceutical Conference, which has brought him into contact with most of the best known pharmacists in the three kingdoms. He has also



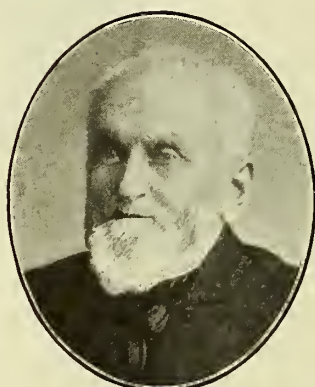
MR. E. H. CHURCH.

MR. A. A. DECK,
Hon. Secretary of Local Committee.

MR. H. F. COOK, J.P.



MR. RICHARD STURTON.



MR. JOSEPH STURTON.



MR. DAVID STURTON.

elsewhere. It was in 1903 while an assistant at Davenport's that Mr. Deck's father's health necessitated him returning to the family business at Cambridge, but Mr. Deck, sen., did not retire till 1906. It will be remembered that

it has been the custom to discharge fireworks from the King's Parade Pharmacy to celebrate the birth of each new year, this custom having been kept up for over ninety years.

MR. E. S. PECK'S BUSINESS

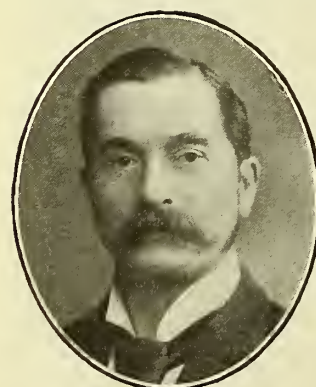
is in Trumpington Street, opposite the Fitzwilliam Museum. It was founded before 1851 at which date Mr. George Peck (Mr. E. S. Peck's father) took over the business from a Mr. Cox, and afterwards moved the pharmacy a

acted as an examiner for the Pharmaceutical Society of Great Britain for some years, and has a reputation for the kindly and sympathetic way he treats the candidates. Mr. Peck acquired his knowledge of the drug-trade from his

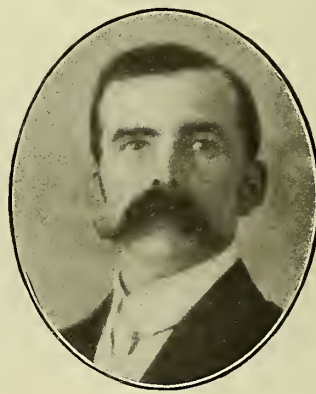
father, but his time was chiefly devoted to academic and scientific education. He obtained the Pharmaceutical Society's herbarium medal in 1884, passed the Minor in 1888, and the Major the next year. He then matriculated at Cambridge University, and as a student of Fitzwilliam Hall graduated B.A. in 1896, taking his M.A. three years afterwards. Two of Mr. Peck's brothers are pharmacists, and three of them have graduated at the University.

MR. CAMPKIN'S PHARMACY.

Rose Crescent, where is situated the business of A. Sidney Campkin & Sons, commemorates a famous Cambridge inn, the "Rose and Crown," which formerly stood on the north



MR. H. FLANDERS.



MR. J. EVANS.

few doors away. Mr. George Peck, who died last year, remained in business till 1904, when he retired in favour of his son, Mr. E. S. Peck, who had previously been in partnership with his father. Mr. E. S. Peck is probably the best

CAMBRIDGE PHARMACIES.



side of the Market-place. The business was established in Sidney Street in 1800 by Mr. William Brewster, an apothecary of the old school. He died in 1863, and was succeeded by his son, Mr. Godfrey Watson Brewster. At this time the business was moved to Rose Crescent, the old position being required for Whewell's Court, and other extensions in connection with Trinity College. On the death of Mr. G. W. Brewster, in 1868, the pharmacy was purchased by Mr. A. S. Campkin, who had been apprenticed to the elder Brewster. Mr. Campkin has been Mayor of Cambridge, and takes great interest in Friendly Society work, especially in connection with the Manchester Unity Independent Order. He has had a seat on the Council of the Pharmaceutical Society for the last few years. He is assisted in the business by his two sons, Mr. Bernhard Sidney Campkin, who passed the Minor in 1895, and Mr. Francis Sidney Campkin, a pharmaceutical chemist and Fellow of the Spectaclemakers' Company.

THREE GENERATIONS OF PHARMACISTS.

If there is anything in the theory of the hereditary transmission of special aptitudes it should show itself in the rather remarkable case of the three generations of Sturtons, all pharmacists. The senior, Mr. Joseph Sturton, is a Lincolnshire man, born in 1815, who in 1839 purchased the business of an apothecary named Winterbourne in Fitzroy Street. He retired in 1879 in favour of his sons, Mr. Richard Sturton and Mr. J. A. Sturton. Mr. Richard Sturton, who qualified in 1872, carried on the retail pharmacy until 1905, when he relinquished it in favour of his son, Mr. David Allan Sturton, who qualified in 1904. The business has since been moved to the opposite side of the road. Mr. Richard Sturton devotes much of his time to municipal and other public affairs. It is interesting to add that Mr. David Sturton has also a long line of pharmaceutical ancestors on his mother's side, his grandfather, great-grandfather, great uncle, and uncle being chemists.

THE UNIVERSITY PHARMACY

at 36 Trinity Street, Cambridge, was established in 1851, and Mr. John Henry Leech, the present proprietor, acquired it in 1888. The business is dispensing, with the sale of optical and scientific instruments, chiefly with members of the University. Mr. Leech obtained the bronze medal in the Pharmaceutical Society's herbarium competition in 1880, and the next year successfully negotiated the Minor.

THE HILLS ROAD PHARMACY.

Mr. Ebenezer Field, to whom reference has been made above, was apprenticed to Mr. Joseph Sturton, and commenced business in 1858 at Regent Street, Cambridge, removing to his present premises in Hills Road some fourteen years later. He is a well-known townsman, and has been for some years a member of the Town Council. He is assisted in the business by Mr. E. H. Field, who qualified in 1903. Mr. Field has always cultivated the photographic side-line, and years ago took up electricity as a hobby.

OTHER BUSINESSES.

Mr. Henry Flanders carries on business in Mill Road, Cambridge. He first went to Cambridge as an assistant to Mr. H. J. Church, and afterwards in partnership opened a business in Mill Road in 1880. Mr. Flanders bought out his partner, and in 1895 built a new pharmacy and house upon land he had purchased on the opposite side of the road.

Mr. John Evans, the hon. treasurer of the Cambridge Pharmaceutical Association, is in business at 116 Fitzroy Street, Cambridge. He was born at Llanavon, Aberystwyth, and apprenticed to the late Mr. J. W. Evans, Lampeter. After that he obtained experience in London, reading materia medica and pharmacy with Dr. Harold Nolan, now medico-legal adviser to the Cairo Court of Justice. Mr. Evans then studied at Muter's School for six months, and passed the Minor in 1893. Then, after managing a branch shop at Aberdovey, he went into partnership with Mr. Adams at Cambridge, and four years later became sole proprietor of the business. It was originally established in 1851 at 30 East Road by Mr. W. C.

Smith, who moved it to Fitzroy Street. Mr. Evans has modernised the shop, and has progressive ideas on pharmacy.

Mr. H. F. Cook, Victoria Road, New Chesterton, was apprenticed to Mr. E. Field, of Cambridge, and then became an assistant with Mr. Henry Peake, Twickenham, afterwards going to Rugby. He next studied at Muter's South London School, and in 1885 passed the Minor in Edinburgh, afterwards going to Brighton as assistant with Messrs. Watts & Co., Mr. John Padwick, and Mr. E. B. Vizer. He started his present business in 1877. In 1900 he opened a branch on the Rock Estate, Cherryhinton Road, which is now carried on by Mr. W. T. Archer. Mr. Cook has been a member of the Board of Guardians for fifteen years, Chairman of the Chesterton Urban Council, member of the County Council twelve years, and a Justice of the Peace since 1907.

Mr. Horace Sharman Beale carries on business at the corner of Petty Cury and Sidney Street. He passed the Minor in 1891, and was an assistant in the business which he now owns.

The business of G. Beall & Son, 25 Sidney Street, Cambridge, is owned by Mr. Samuel Smart Beall, who passed the Minor in 1876. He succeeded his father in the business.

Mr. E. H. Church, Ph.C., Vice-President of the Local Committee of the British Pharmaceutical Conference, is President of the Cambridge Pharmaceutical Association. He carries on business in St. Andrew's Street, nearly opposite Emmanuel College, and has been a pharmaceutical chemist since 1888. He succeeded his father, Mr. H. J. Church, who now lives in retirement.

Mr. Percy Pain, Ph.C., carries on business with his father, Mr. W. E. Pain, at 13 Sidney Street, Cambridge. Mr. Pain, sen., was in business before the passing of the Pharmacy Act, 1868. The optical side-line looms largely.

Mr. Sydney James Parson, chemist and druggist, is in business at Peas Hill and Mill Road, Cambridge. The former business can be traced back to 1775, and was acquired by Mr. Parson's father in 1890 from his uncle, with whom he had been apprenticed. Mr. S. J. Parson, who qualified in 1902, took over the business on the death of his father in 1903, and last year added the next-door premises, which are devoted to the photographic branch. The branch business at Mill Road acquired in 1907 is managed by Mr. Mervyn Ernest Parson, brother to Mr. S. J. Parson.

Boots Cash Chemists (Eastern), Ltd., have fine premises in Petty Cury and Market Place, the shops being connected so as to form an arcade. The business is carried on in the premises wherein was formerly the old-established pharmacy of Orridge & Sussum.

THE LOCAL ASSOCIATION.

An Assistants' Association was founded in 1892 for the purpose of arranging a course of lectures and social evenings. This led to the formation of a permanent Association in the next year, with the late Mr. Alderman Deck as President, and this has been most serviceable to friendly relations amongst the chemists of the town.

LOCAL INDUSTRIES.

The Cambridge Scientific Instrument Co., Ltd., produce some splendid scientific instruments. The company was formed in 1895 with a capital of 10,000*l.* Messrs. W. & G. Pye & Co. are also a well-known local firm of scientific apparatus makers. The Offord truss is made in Cambridge, and at Histon, a little way out of the town, is the important jam factory of Messrs. Chivers.

THE CHEMIST BREATHED a sigh of relief as he handed the last pictorial advertisement to an eager youngster. "Thank goodness," he muttered to his assistant, "there'll be peace in this benighted pharmacy till something new comes in to be given away." The door, which the child had closed noisily, opened softly, almost apologetically. "Good afternoon," said the pharmacist to the lady who had glided to the counter. "Yes, Mr. Turkey-Rhubarb," said the visitor. "you might please 'phone to my husband and tell him not to come home to tea, because I'm going to hear the Thingummy Guards' Band." "But you are not a customer!" pleaded the chemist. "Oh, no! I always go to the Stores; but they're so busy I couldn't trouble them with a trivial thing like that."

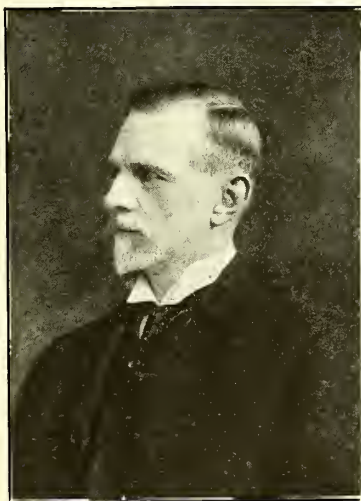
BRITISH PHARMACEUTICAL CONFERENCE

Forty Seventh Annual Meeting

CAMBRIDGE, JULY 25-28, 1910.

ONE of this Conference's best assets is its peripatetic character. It has never met twice in succession in the same place, and previous to this week it had met in twenty-nine cities and towns—two in Ireland, four in Scotland, two in Wales, and twenty-one in England. The first meeting is officially regarded as Bath in 1864, but the Conference was started at Newcastle-on-Tyne in 1863, and there have been two meetings there since. Birmingham also has been host to the Conference on three occasions; twice the members have visited Aberdeen, Bath, Brighton, Bristol, Dublin, Dundee, Edinburgh, Glasgow, Liverpool, London, Manchester, Nottingham, Plymouth, and Sheffield. It has also visited (each once) Belfast, Bradford, Bournemouth, Cardiff, Exeter, Hastings, Leeds, Norwich, Oxford, Southampton, Southport, Swansea, and York. This week the second oldest of England's University towns, Cambridge, has given the Conference a hearty welcome. As these words are being printed while the Conference is in session, we do not venture to speak of success here; but the meeting started with all elements for success in its favour—a popular President, a good list of communications, and a varied and attractive social programme. Cambridge and its vicinity constitute one of the most fascinating districts in England. Another of the Conference's valued assets is the attraction which its presidential chair possesses for the silent workers in British pharmacy. The Presidents have been mostly men whose chief interests were academic or experimental. Mr. Francis Ransom, this year's President, is one of the latter, and the fifth of nine ex-Secretaries who have been appointed to the presidential chair. Professor Attfield, Hon. Secretary from 1863 to 1880, was President in 1882 and 1883; Richard Reynolds (1863 to 1871) took the chair at York in 1881, F. Baden Benger (1871 to 1884) was President in 1888, and W. A. H. Naylor (1886 to 1901) was President for two years, 1905 and 1906. Mr. Ransom would have been President sooner had his health permitted, for he is recognised as one of the most painstaking, as he is one of the quietest, officers which the Conference has had. He is the son of Mr. William Ransom, of Hitchin, a veteran pharmacist, herb-farmer, oil-distiller, and galenical-manufacturer, whose business was well established and his products known in 1859, when his son Francis was born. The business has grown since then, and latterly has been under the management of Mr. Francis Ransom. He was educated at private schools, and passed the Matriculation examination of the London University in 1877. In the course of his early pharmaceutical training he spent two years with Messrs. Southall Bros. &

Barclay, Birmingham, and when the time came for qualifying he went to Dr. John Muter's School, from which he passed the Minor examination in July 1882. In the October following he entered the School of Pharmacy, Bloomsbury Square, where he took certificates in all subjects, and passed the Major examination in April 1883. He then turned his attention to research, and worked with Professor W. R. Dunstan in the tentative Research Laboratory which preceded the finished article at Bloomsbury Square, and it is notable that the subjects which he took up were allied to those drugs with which he was familiar through their cultivation and treatment in his father's farms and laboratories. The first was the most classic research, in so far as it was on belladonna, he and Professor Dunstan studying the chemistry and pharmacy of this drug with such results that the galenical products were revolutionised, and assay-methods thoroughly revised. The series of papers began to appear in 1885. In the year following he and Mr. H. W. Jones communicated to the Conference a paper on the assay of elaterium, a drug which is made in the Hitchin laboratories. He also made a special study of ipecacuanha, has done something in regard to nux vomica, the henbanes, and so on, showing in all his published papers careful observation, analytical exactitude, and caution in arriving at conclusions. His abilities as a pharmacist were recognised by the Council of the Pharmaceutical Society in his appointment in 1886 as a member of the Board of Examiners for England and Wales, a position which he held for ten years. He began to attend the Conference meetings as soon as he passed the Major, and when he came to the secretaryship as associate with Mr. Naylor a combination was formed



FRANCIS RANSOM, Ph.C., F.C.S.
B.P.C. Hon. Secretary, 1893-1903; Vice-
President, 1903-09; President, 1909-10.

which became characteristic of a decade in British pharmacy. After his retirement, the members of the Conference presented Mr. Ransom with a fine gold watch. Mrs. Ransom is as well known to Conference *habitues* as her husband, and she has now growing round her five sons, the older of whom show individuality of taste yet are one in effort to do well. The garden of Mr. Ransom's home, "The Chilterns," Hitchin, is the world he lives in during the hours when there is no business, for he is fond of gardening. He has other hobbies—motoring among them. One cannot say all that might be said about Mr. Ransom, for he is as modest as he is quiet; but this at least must be said—that all men living who have preceded him in the presidential chair of the British Pharmaceutical Conference respect him for his abilities, like him for his goodness of heart, and honour him for what he has done for British pharmacy. The members endorse this estimate.

Some Present-day Aspects of Pharmaceutical Research

(Being the Presidential Address to the British Pharmaceutical Conference at Cambridge, July 26).

By Francis Ransom, F.C.S., Pharmaceutical Chemist.

DURING the forty-seven years of the existence of the British Pharmaceutical Conference this is the first occasion on which we have had the privilege of meeting in Cambridge. As the seat of the University which has, perhaps, done more than any other to promote scientific research, and in which such research has been followed by the most brilliant successes, we may, I think, consider that Cambridge has bestowed upon us a special honour in inviting us to meet here this year.

In looking through the list of those distinguished pharmacists who have preceded me in the chair, I can only regret that the honour of presiding on the present occasion has not fallen on one more worthy to occupy the position. In considering the subject for my address to-day, I was confronted with the difficulty that nearly every branch of pharmacy has been ably and exhaustively dealt with by my predecessors. I propose, however, to deal with some aspects of pharmaceutical research of the present day, and to endeavour to draw attention to certain directions in which progress may be anticipated. No real advance in any branch of science can be expected unless adequate attention be paid to the education of those who are to be responsible for its development. It cannot be too often pointed out that true education does not consist in the accumulation of a large number of facts, but in so training the mind that it shall be able to regard in true proportion the significance of all facts which may be presented. In the words of N. H. Martin in his presidential address at Bournemouth:

"The function of education should be to make men accurate observers, so that they may have confidence that they see what they appear to do; accurate thinkers, so that they may reason with logical precision from the facts which they have observed; and, above all, be accurate manipulators, so that they may use the instruments of science in a manner to eliminate a very common source of error—faulty workmanship."

These words were spoken with special reference to the education of those students who in future should pursue research, and I maintain that they should apply with equal truth to all branches of pharmaceutical education. Every practising pharmacist should be on the look-out for improved methods in the preparation of remedies, and, having been trained in accuracy, he may be certain that opportunities will occur of initiating improvements which will tend to the advancement of pharmacy.

Examinations

are usually considered a necessary evil; they are not, and never can be, a sufficient test of competency. We may hope that in this country we shall see before long an enforced curriculum, which, in conjunction with examination, will ensure as far as possible that every pharmacist is a man deserving of his title. Having passed his Major examination, it is most desirable that the student should, if possible, continue his education in the Research Laboratory of the Pharmaceutical Society or some similar institution. Here work can be carried on free from the trammels of examination requirements and an opportunity can be obtained for commencing original research. It is gratifying to see that our Universities are now offering increased facilities to those who desire to study certain branches of science directly connected with pharmacy, and we may hope that actual pharmaceutical research will also be increasingly recognised and encouraged.

It is much to be regretted that so large a proportion of students are now satisfied with the Minor qualification, and it is a question for the Council of the Pharmaceutical Society to consider how the Major examination may be made more attractive. It is to be feared that the title of "Pharmaceutical Chemist" is not appreciated by the public, while the letters "M.P.S." are more likely to impress the general mind and thus give a wrong idea as to

qualification. A man who has spent sufficient time and money to obtain the Major qualification, especially if that qualification also implies that he has passed through an adequate curriculum of study, deserves some title which shall be generally recognised as placing him in a position superior to that of the ordinary chemist and druggist.

Having secured a supply of men who have time and ability to devote to original research, let us consider in what direction such investigations may be most profitably pursued. I should like to emphasise here a truth which, although generally acknowledged, has not been so fully acted upon as it deserves. In the words of a past President, the late H. B. Brady, "the attainments of the pharmacist must be complementary to those of the medical practitioner." This is profoundly true, not only as referring to the everyday work of the pharmacist, but also in regard to the prosecution of original research. In looking back on the vast amount of work done during the last fifty years by pharmacologists on the one hand and chemists on the other, the question arises whether we might not have seen even more valuable results if there had been some more definite organisation to bring together the

Two Classes of Investigators.

New remedies are constantly being introduced, and while some seem destined to find a permanent place in medical practice, others after a few years disappear altogether or are restricted to very limited employment. Medicines, like costumes, are subject to the vagaries of fashion, and what is valued in one generation may be discredited in the next, often to be revived in later ages. This may, to some extent, be accounted for by the changing conditions of life, which, while eradicating one disease, may encourage another. As, however, many of these remedies claim to cure complaints which are always with us, their fluctuating reputations must depend also upon other causes. In some cases the therapeutic action obtained by the first observer has been found wanting when tried by others, and that which seemed likely to prove a valuable agent has been discredited. In other cases principles of known activity have been separated by the chemist, but, having failed to obtain general recognition by the medical profession, the drug is speedily forgotten. In order to establish the value or worthlessness of any remedy, organised experimental investigation should be undertaken by the physiologist to determine its action, by the pharmacologist to confirm its remedial value, by the chemist to determine its composition, and by the pharmacist to devise suitable preparations. In many cases the botanist is also required to ascertain the species or variety of the plant from which it is obtained. On rare occasions, such as seen in the classic work of T. R. Fraser on *strophanthus*, two or more of the above qualifications were united in one man, but in most cases the success of the experiments in one branch of the subject are dependent upon the accuracy of the investigations undertaken from other sides. On looking through the "Year-books of Pharmacy," we see records of an enormous amount of work done by chemists and pharmacists both in this and other countries. A large portion of this work has been utilised by the compilers of *Pharmacopœias*, and in other ways has been rendered of practical value. There remains, however, much valuable work which does not appear to have been adequately recognised by medical men. Some investigations, excellent in themselves as examples of energy, ability, and perseverance of the research chemist, appear to have been devoted to subjects which a preliminary physiological examination would have shown to be of no great importance from a medical point of view. The time and ability devoted to these subjects might, if directed to other problems, have cleared away many difficulties which have for long been encountered by the physician. In considering the directions in which research at the present time offers special opportunities,

Botany Occupies a Foremost Place.

Since this subject now receives so little attention in the medical curriculum, although at one time every medical school had its physic garden, it is all the more necessary that it should not be neglected by the pharmacist. From the vegetable kingdom the most potent, the most trustworthy, and the most generally useful remedies are still obtained. It is, therefore, of the first importance that correct botanical knowledge should be employed in selecting those species or varieties of plants which are best adapted for the purposes for which they are required. Pharmacognosy is now a recognised branch of the pharmacist's training. The microscopical structure of the various tissues of plants affords the means, formerly to a large extent neglected, of distinguishing the sources of drugs and of detecting sophistication and adulteration. In the cultivation of medicinal plants much has already been done, by the aid of practical botanical knowledge, in effecting improvements on the original strain. By varying the conditions of growth, by hybridisation and by careful selection of seed, remarkable results have already been obtained. Cinchonas offer, perhaps, the best example of what can be done in this direction, the alkaloidal content of the barks cultivated in the East showing a large increase on those growing in the native forests in South America. The attempt to control the proportions of the different alkaloids present, although not yet crowned with success, offers a promising field for further research. Coca affords another example of the improvement resulting from scientific cultivation in Ceylon and the East Indies. In the opinion of Tschirch, much remains to be done in this direction in other medicinal plants which are, or might be, improved by cultivation. Chevalier has recently shown how the alkaloidal value of belladonna-root may be increased by the employment of nitrogenous manures, while unaffected by potash and phosphates, and we may anticipate that further experiment in this direction will be followed by successful results. The cause of the temporary variation in the quality of certain drugs affords further scope for botanical investigation. For many years the jalap of commerce yielded from 10 to 20 per cent. of resin. A few years ago there commenced a gradual decline in percentage, until it was difficult to obtain tubers which would yield the 10 per cent. required by the British Pharmacopœia. During last year the roots became very scarce and almost famine prices were paid for samples of poor quality. About nine months ago a sudden change occurred, importations became more abundant, prices fell, and at the same time the quality showed great improvement, there being plenty of jalap available containing 10 to 15 per cent. of resin. A somewhat similar experience has occurred in connection with belladonna-root, especially that imported from the Continent. A root containing 0.5 per cent. of alkaloid was at one time obtainable without difficulty, and 0.6 per cent. was occasionally met with. Then for some years it was difficult to find any containing 0.4 per cent., many samples yielding only about 0.2 per cent. Recently there has been some little improvement, but there is still great difficulty in finding root of a high percentage. In both jalap and belladonna it is impossible to form any trustworthy opinion from general appearance as to the value of the drug. Whether the variations are due solely to the seasons or whether there are other conditions affecting the constituents of the drugs is a subject inviting investigation.

Basis of Drug Valuation.

There are, however, other questions to be decided in the valuation of drugs besides the estimation of what are usually considered to be the active constituents. Are the physiological properties of belladonna and jalap, for example, entirely due to the mydriatic alkaloids and the resins which they respectively contain? In the early part of the last century a great advance was undoubtedly made in our knowledge of drugs by the separation of alkaloids. In 1803 Derosne isolated narcotine and Sertürner discovered morphine in 1816. Pelletier and Caventou separated quinine and cinchonine in 1820, and these discoveries were quickly followed by others which profoundly affected the administration of medicines. For a time it appeared as if galenical preparations were doomed and

empiricism would disappear with the advance of more strictly scientific methods. If the active constituents of drugs could be separated in a pure state, what further use could there be for tinctures, extracts, and other preparations which undoubtedly contain material which can have no medicinal value? We find, however, that the demand for these somewhat crude preparations still continues, not only in those cases in which no definite active principles have been separated from the drug, but also in such as cinchona, belladonna, and nux vomica, from which alkaloids possessing well-defined physiological activity are readily available. This question, although essentially one for the therapist to decide, is of great interest to the chemist and the pharmacist. It was referred to by Dr. Thoms in his important communication to the International Congress of Applied Chemistry held in Berlin in 1903 on the "Valuation of the Narcotic Extracts from the Chemical and Pharmacological Standpoint." From the data given in this paper and in that which followed by the late Professor Liebreich, and also from the views expressed in the discussion which followed, it was inferred that there is a general opinion that the value of these preparations is not entirely dependent upon the alkaloids which they contain, but is also to some extent governed by other constituents present. Kraemer, in a recent paper on "Pharmacognosy and the United States Pharmacopœia," also accentuates the decided opinion expressed by various authorities that few if any isolated substances tested pharmacologically produce the results obtained from the drugs themselves. The same point was also emphasised by Tschirch in his recent inaugural sessional address delivered at a meeting of the Pharmaceutical Society of Great Britain. If all the beneficial results of belladonna, cinchona, and nux vomica can be obtained by the employment of the separated alkaloids, the sooner the galenical preparations of these drugs become obsolete the better. As, however, there appears no prospect of these preparations being discarded, it is the duty of the pharmacist to ascertain as far as possible the best methods for their production. It is here absolutely necessary that the medical man and the pharmacist, the physiologist and the chemist, should together investigate the relative value of the different preparations. The most elegant preparation is not necessarily the most effective, and, if the object be to eliminate as far as possible all constituents except the alkaloid itself, we may naturally arrive eventually at a mere solution of such alkaloid. The question as to what should be retained and what eliminated in a perfect pharmaceutical preparation is a matter of difficulty and can only be definitely answered from experimental data. There are still many drugs from which no definite active principle has yet been separated, while in others there are so many constituents of known physiological activity that by eliminating some a very different result from that required may be obtained.

In the case of drugs containing alkaloids of known physiological value, such as belladonna and cinchona, it is desirable that these alkaloids should as far as possible remain in combination with their natural acids. The physiological action of an alkaloid salt may be to some extent modified by the acid. The alkaloids of belladonna are known to be chiefly in combination with malic acid, and as far as possible this combination should not be disturbed. The tannin and even the carbohydrates present may also be of importance, and further investigation is required to determine how far they should be retained, eliminated, or ignored. The relative proportion of the three alkaloids—atropine, hyoscyamine, and scopolamine—varies much in different specimens of belladonna root and leaves and in their preparations. The proportion of each alkaloid may vary in the drug according to the age of the plant when it is collected, to the conditions of growth, and to the methods of drying. When dried very slowly by exposure to the natural heat of the sun, fermentation may be promoted, which may cause various changes in the constituents. On the other hand, when dried rapidly by kiln-heat an altogether different set of changes may be effected. Still further alterations in the constituents of the drug may result from imperfect storage due to a damp atmosphere or the attacks of insects.

In the case of cinchona it is well known that the cultivated barks of the East are very different in composition from those obtained originally from the indigenous trees growing on the slopes of the Andes. A tincture or decoction from the present official red bark may be very different in action from those which were prepared from the South American yellow bark thirty or forty years ago. In the case of the present official liquid extract the employment of hydrochloric acid to facilitate the extraction of the alkaloids may altogether upset the natural combinations. It is interesting to notice that there is still a demand for the old liquid extract of the 1867 Pharmacopœia, where water is the only solvent employed. The experience of pharmacologists has proved that the rates of absorption of alkaloids vary according to the acids with which they are combined, and we may therefore expect different results to be produced by the hydrochlorides of the alkaloids in the present official extract from those obtained when the alkaloids were in combination with their natural organic acids as formerly. If the effects of the hydrochlorides of quinine and the other cinchona alkaloids are required, these may be readily obtained by the use of the pure alkaloidal salts.

Ipecacuanha.

Few galenical preparations have been subjected to so much investigation as those of ipecacuanha. From the amount of literature which has been published on the methods for preparing the wine, and the pharmaceutical experience and skill which have been devoted to the subject, we might have hoped that a thoroughly satisfactory formula would have been attained. Much of the difficulty has doubtless arisen from the variability of the sherry which may be employed in the preparation. Having found that acetic acid was a good solvent for the alkaloids of the root, the 1885 Pharmacopœia introduced a wine prepared from an acetic extract. Here we have an evident case in which the best solvent for the alkaloid is not necessarily the best menstruum for exhausting the drug. The acetic acid doubtless altered the natural combinations of salts in the root, the heat employed in evaporating the acidified solution probably induced further changes, and the final result has been generally condemned as an unsatisfactory preparation. The formula of the 1898 Pharmacopœia is a very distinct advance, and the standardisation of the alkaloids has produced a wine whose efficacy can be much more relied on than formerly, but it is a question whether the introduction of lime into the final extraction in order the more completely to exhaust the root is a desirable addition. In the forthcoming edition of the German Pharmacopœia it is proposed that the wine, hitherto official, shall be omitted, and that it shall be replaced by a tincture. A standardised tincture would probably be a more uniform and stable preparation, and it may eventually replace the wine of our own Pharmacopœia. Although the alkaloids of ipecacuanha are well known and exert the general physiological activity of the root, there is no indication that either the root itself or its galenical preparations are likely to be discarded in favour of the chemically pure principles. For certain purposes, including its value as a remedy for dysentery, it has been shown that the alkaloids alone do not possess the properties desired, and the root from which these alkaloids have been nearly or entirely removed has been found to be more efficacious than the natural drug. In referring to the above instances I do not wish for a moment to disparage the advance which has been made during recent years in the various

Processes of Standardising Pharmaceutical Preparations.

There can be no doubt that the chemical standardisation of the most important active constituents has done much to promote an approach to uniformity in a class of remedial agents which at one time were peculiarly liable to variation. I do, however, maintain that absolute uniformity in therapeutic action cannot be expected from any form of standardisation which takes account only of one active constituent. One of my distinguished predecessors in this chair, in his Presidential address at Birmingham in 1905,

entered very fully into the official processes for standardising galenical preparations, and made valuable suggestions for their improvement and for introducing fresh processes for other drugs. He recognised the danger of restricting the medicinal properties of a drug to a single potent principle, and this danger I desire to emphasise, both in the official preparations which are at present standardised, and in others which may be introduced in the future. In *nux vomica*, brucine is generally supposed to have some physiological action, though less potent than strychnine. While fixing the amount of strychnine to be present in the extract and tincture, the percentage of brucine is disregarded, although very variable. In opium many alkaloids having different medicinal properties are present, although the percentage of morphine only is defined. The mydriatic alkaloids of belladonna although similar in properties are not identical. If an attempt be made to standardise the preparations of *hyoscyamus*, we have the two alkaloids *hyoscyamine* and *hyoscyne* in variable proportions, and the properties of these are known to be different. That those which have long been regarded as active principles may not even be pure chemical bodies has been recently shown in the interesting work by Power and Moore on *elaterium*. These authors have shown that the *elaterin*, of which the British Pharmacopœia requires 20 to 25 per cent. to be present, is itself a mixed substance containing varying proportions of pure *elaterin*, which alone has any physiological activity.

Activity from Complexes in Drugs.

There are, and probably will always be, many drugs whose preparations it will be impossible to standardise by any chemical methods. *Rhubarb* contains *emodin*, *chrysophan*, *rheotannic acid*, and probably other more or less defined constituents. *Cascara Sagrada* is also said to contain *emodin*, *chrysophan*, and a variety of tannin. The combination of these with other substances produces the results required, but the composition is altogether too complex to permit of any form of assay to be introduced into their preparations. In the use of these and many other remedies medical men must still be guided by the knowledge derived from experience. Pharmacists can do little beyond exercising care in selecting genuine drugs and providing preparations of them which experience has shown to be effective. There are, however, certain drugs which, while not adapted in our present state of knowledge for chemical standardisation, can be tested for their activity by physiological methods. The valuable papers contributed to the Conference by Dr. Dixon in 1905 and Dr. Martin in 1909, and the interesting discussions which followed, indicate that pharmacists are alive to the importance of this branch of research, although they are debarred from taking any active part in the investigations. If, as has been suggested, physiological tests should be introduced into the Pharmacopœia for preparations of such drugs as *cannabis*, *digitalis*, *scull*, and *strophanthus*, it will be necessary to obtain some relaxation of the present law which regulates experiments upon animals. As the Pharmacopœia is the recognised guide to pharmacists for the preparation and examination of medicinal products, it would manifestly be unfair to introduce tests which could only be performed by medical men holding the necessary licences.

If qualified pharmacists could be granted modified licences to perform the necessary physiological tests for preparations of *digitalis*, *scull*, and *strophanthus*, it might result in a general improvement in these important remedies. Such licences should, of course, only be given to pharmacists who have undergone a course of training in physiological assaying, but if the processes become officially recognised in the Pharmacopœia we may perhaps hope that such training will become a part of the recognised curriculum for the Major qualification. It is generally recognised by medical men that no standardisation, either chemical or physiological, will absolutely ensure that the desired results will be obtained, and, owing to individual idiosyncrasy, each patient has by experiment practically to be standardised by the drug before the correct dose can be determined.

The Standardisation of Disinfectants

is a subject which has recently received much consideration and which must be of great importance and interest to pharmacists. The difficulties met with in the investigation appear to be as great as or even greater than those encountered in the standardisation of drugs. A true disinfectant must not be simply a germicide, but also have the power of decomposing and rendering innocuous the poisonous substances produced by the micro-organisms of disease. The conditions in which the disinfectants are to be used have also to be considered, such as the temperature during the process of disinfection, the presence of foreign substances, and the variety of micro-organism which is the cause of the trouble. Neither the chemical nor bacteriological processes which have hitherto been devised seem to be applicable in all cases, although for specific purposes comparisons of efficiency may be deduced. I am very pleased to see that we are promised a paper on this subject during the present sitting of the Conference, and we may confidently anticipate further light on a difficult question.

Synthetic Remedies.

Another subject of deep interest to pharmacists, although outside the scope of their ordinary work, is the relation of chemical constitution to physiological action and the production of synthetic remedies. Although the time is probably still far distant when the medical man will be able to rely entirely on the chemist for the synthetic production of compounds possessing any required physiological activity, some progress has already been made in this direction. In the case of ergot an active principle (para-hydroxyphenylethylamine) has been recently separated from the aqueous extract, having the power of increasing the blood pressure. This compound, which can be produced synthetically, is found to bear a close resemblance in constitution to adrenaline, which has the same physiological action. By thus comparing the constitution of active principles from different drugs similar in physiological action, it may be possible to produce a synthetic remedy having the advantages of each and free from any deleterious properties. Thus, eventually, in the distant future, when chemistry and physiology have sufficiently advanced, it may be possible to build up synthetically all the remedies that may be required. The synthetic remedies which have appeared since the introduction of antipyrin in 1883 must be counted by hundreds, and although many have had a very evanescent popularity, others remain as most valuable drugs. One of the most interesting of these products resulted from the investigation of the anæsthetic action of the derivatives of cocaine. The result was the production of the β -eucaine possessing similar anæsthetic properties, but being almost free from the toxicity of the natural alkaloid.

The British Pharmacopœia.

The progress in pharmacy and pharmaceutical research is, or at least should be, to a large extent reflected in successive editions of the official Pharmacopœias. As the British Pharmacopœia, with its Indian and Colonial Addendum, is now the official guide throughout the British Empire, it is of supreme importance that it should be compiled by the authority of those whose scientific and practical knowledge renders them the most competent to perform the work. The British Pharmacopœia, as stated on the title-page, is published under the direction of "The General Council of Medical Education and Registration of the United Kingdom." Although in the preface to the last edition an acknowledgment is made of the assistance rendered by "a Committee of the Pharmaceutical Society of Great Britain," it is the members of the General Medical Council who are solely responsible for its production. In this respect our Pharmacopœia differs essentially from those of most other countries. I find by reference to those issued in recent years that in nearly every instance the national Pharmacopœias are revised by commissions on which pharmacists as well as medical men are represented. In the case of the United States of America the Convention is almost equally divided between representatives of medicine and pharmacy. In most of the other countries it will also be found that pharmaceutical associations and

colleges send representatives who not only advise, but have direct responsibility in the revision. In former times the education and experience of the medical man gave him a much more intimate acquaintance with pharmacy than at present, and it would appear that the changed conditions are hardly sufficiently recognised in this country. The fact that the General Medical Council has invited the assistance of the Pharmaceutical Society is a step in the right direction, but I venture to suggest that a more direct recognition of pharmacists in future revisions would be found to embody more fully the results of pharmaceutical research in our national Pharmacopœia. In a practical paper by Dott, at the last meeting of the Conference, valuable suggestions were made as to the reduction of the alcoholic strength of tinctures and other preparations whereby economy might be obtained without any loss in efficiency. This is only one of the many instances in which the knowledge of the practical pharmacist would be of value. In regard to pharmaceutical chemicals it is generally recognised that in some cases the tests for purity have been unnecessarily stringent, while in others the requirements might have been made more strict. Here, also, the practical knowledge of the manufacturer and the dispenser would supply the information that is required. In order to make the Pharmacopœia Imperial rather than national in character it would also seem desirable that India, Canada, and other Colonies should appoint medical and pharmaceutical representatives, who should also have direct responsibility in the revision.

Medical and Pharmaceutical Co-operation.

During the last year a conference has been held between representatives of the British Medical Association and of the British Pharmaceutical Conference, with a view to forming a Joint Standing Committee "to collect data and to promote the realisation of aims found to be held in common by both bodies." It remains for the members of the two associations, if they approve the scheme, to elect at their respective annual meetings representatives to serve on this Joint Committee. As there are many objects which the two associations have in common, it is much to be hoped that the Committee may be appointed, and there will be an opportunity during the present session for our members to discuss the matter. Although not contemplated for this specific object, I would suggest that this or a similarly appointed Joint Committee might be of much value in organising research work and thus bringing together medical men and pharmacists for the purpose I have mentioned earlier in my address. We issue every year a list of subjects upon which it is suggested that work should be undertaken. Would not these suggestions be of increased value if they emanated from a Committee on which both associations were represented? By providing the means of putting the medical man and the pharmacist into direct communication I believe that such a Committee might render much assistance in the promotion and prosecution of original research.

Obituary.

Among those who have been removed by death since our last meeting we have to record the loss of Octavius Corder, a distinguished pharmacist who presided over the meeting of the Conference in Nottingham in 1893. He was an enthusiastic botanist, and it will be remembered that in his Presidential address he dealt with medicinal plants in common cultivation, and indicated of how great importance and interest botanical knowledge is to the practical pharmacist. May his life be an incentive to many a pharmaceutical student to pursue botany, not only for its practical value, but also for the pleasure to be derived from the study of plants in spare moments. By the death of Michael Carteighe, British pharmacy has lost one of its most distinguished members, and the Conference a past Vice-President and Hon. General Secretary. It would be safe to say that no member of our craft has devoted more time, energy, and ability to the cause of pharmacy. We have also to deplore the loss of Charles Ekin, who, especially in the early days of the Conference, rendered valuable assistance by his contributions to pharmaceutical research, and who occupied the position of Treasurer from 1877 to 1884.

In conclusion, I would appeal to members to do all they can to increase the membership and to make the Conference more thoroughly representative of British pharmacy, not only the pharmacy of Great Britain, but of the British Empire. We are always pleased to see a good contingent of our Irish members, and we usually have the pleasure of the company of some pharmacists from India and the Colonies. Let us remember that one of the original and most important objects of the Conference is to promote the friendly union of those interested in the advancement of pharmacy. There must always be many who are unable to join in our annual meetings, but to all our members throughout the Empire and abroad we desire to send a message of hearty greeting and to ask them to regard membership of the British Pharmaceutical Conference as a bond of union and good-fellowship.

First Session—Tuesday.

The morning of July 26 was wet, but this did not prevent an excellent muster of members at the opening of the business meetings in the theatre of the Botany School. This is a fine room for the purpose of the Conference, the lighting, ventilation, and acoustic properties are perfect, while the arrangement of the seats in tiers makes it easy for everyone to obtain a view of the rest of the room. On the table were a few vases of medicinal plants, such as the poppy, digitalis and dill, which gave an appropriate touch to the occasion. The President (Mr. Francis Ransom) came in at about 9.45, by which time the theatre was well filled with ladies and gentlemen. The President had on his right Dr. A. W. Ward (Master of Peterhouse and Deputy Vice-Chancellor), Mr. J. F. Harrington (President of the Pharmaceutical Society), Professor A. C. Seward, Mr. T. H. W. Idris, Mr. J. C. Umney (Treasurer), Alderman A. Sidney Campkin, and Mr. A. H. Church. On his left sat Alderman W. P. Spalding (Mayor of Cambridge), Mr. N. H. Martin, Mr. W. A. H. Naylor, Mr. G. Claridge Druce, Mr. J. F. Tocher, Mr. R. A. Robinson, Mr. F. W. Branson, and Mr. T. Maltby Clague.

The President, who was received with loud applause, said: Ladies and gentlemen, on this, the occasion of our first visit to Cambridge, we have the privilege to have present here with us this morning Dr. Ward, the Master of Peterhouse and Deputy Vice-Chancellor; Mr. Alderman Spalding, the Mayor of Cambridge; Professor Seward, Professor of Botany in the University of Cambridge; Mr. Alderman Campkin, who represents the Town of Cambridge Committee. Each of these gentlemen has consented to address a few words to us. I will only say now how gratified and honoured we feel that they are with us to-day. A visit to Cambridge has long been looked forward to as a possibility by our Conference, and the success of the pleasant function last night indicates that, so far as the local arrangements are concerned, our Conference will be one of the greatest successes that we have had. (Applause.) I will now call upon Dr. Ward.

Speeches of Welcome.

Dr. A. W. WARD, who had a most cordial reception, having expressed regret that the Vice-Chancellor's engagements at Canterbury prevented him attending, said: In the circular which my friend Mr. Peck has communicated to me it is quite correctly stated that Peterhouse is the oldest of Cambridge colleges, but we do not owe our extremely long life to any special connection with the medical profession. (Laughter.) We have some distinguished members of that profession on our roll. We have no doubt whatever now that we admitted as a fellow commoner to our high table the discoverer of the circulation of the blood. Another member of our college was Sir Thomas Browne, one of the wittiest and humorous of the men who have occupied the distinguished post of President of the College of Physicians. And third, and I think the only other medical man of eminence whom we can recall belonging to our college, belongs to an earlier date. He was so able a man that the critics would not allow him to have written the book for which he was famous; and hence Pope's famous line:

"Garth did not write his own 'Dispensary.'"

(Laughter.) Well, ladies and gentlemen, as I said, I do not stand here on my own account; but I speak for the Vice-Chancellor, and through him have the honour of speaking for the University of Cambridge, and if he had been here he would recognise the importance of this meeting, besides feeling the pleasure which it affords to us all. I understand that this Conference numbers something like a thousand members—a very large number even in those days of great conferences and great assemblies—and that it consists of most important elements or factors. It includes, I understand, those who are teachers and examiners in a branch of medical research the practice and importance of which is certainly not under-rated at the present day, especially after the recent action taken by the General Medical Council, and which extends now into ranges of inquiry which could not have been dreamt of when the association was first founded. I see, with interest, how many papers are to be read connected with bacteriological research, a branch of study now taken in as connected with the researches of pharmacy. The Conference consists, secondly, of those who are chemists in the great works and whose analytical labours are of such acknowledged utility. I see the ominous word "Water Analysis" among others prominent, which always comes to our ears with special awe. And it consists, lastly, of the practitioners to whose provision for our daily needs all of us owe so much of our health, and consequently of our happiness. This important Conference meets here to-day, I think, for the first time. You have already been at Oxford, I see, some years since, when the Conference was welcomed by the then Vice-Chancellor, the distinguished philosopher Professor Edward Caird, and by Sir Henry Acland. Both these have gone, and here at Cambridge you will also be addressed by the Regius Professor of Medicine, of whom we are all proud. (Applause.) You will find here a very great development of recent years in our large and flourishing medical school—"Hear, hear!"—a development with which the University, aided by benefactions, has striven hard to keep abreast in the appliances necessary for medical study. You will see, above all, what you have already seen this morning, what a botanical laboratory we now happily possess; and I hope you will be able to visit the Botanical Gardens—one of the best managed departments, if I may say so, of our University. ("Hear, hear," and applause.) The connection which our medical faculty typifies, and which your own Conference typifies—the connection between scientific research and the national needs—will be present to all your minds; and it is that which your visit will, I hope, help in return to impress upon the members of the University. ("Hear, hear.") There is another connection of which I would speak with bated breath—it is a connection upon which I should not have touched at all, but it is brought to my mind by observing that one of the papers to be read this morning is concerned with the name of Ray, the great naturalist at the very dawn of natural history, and a fine scholar to boot. He exemplifies the connection between letters and science, which is one of the features of our University—"Hear, hear," and applause)—and which is a feature upon which we all set the greatest value. I must not dwell upon it now; but Ray's name brought it so vividly to my mind—a man almost as distinguished in the literary presentment of his work, as by that work it is that I ventured to touch upon it—I must not dwell upon the connection of the subject which interests you all and the faculties of various branches of study,—in the faculty of arts; I must not refer, speaking of the faculty of Divinity, to the time when clergymen were doctors and when, no doubt, every clergyman who was well equipped kept his own dispensary. I must not dwell, speaking of the study of history—I am always in a difficulty in distinguishing as between tropics iology and pharmacy—I must not dwell, speaking of the study of history, on the subject of antidotes and of these things which antidotes are prepared for, which interest historians from Mithridates to the days of the Borgias. (Laughter.) In speaking of literature, I must not dwell on the feature well known to all students of Elizabethan age, when the druggist halls were the centres of literary converse and mutual encouragement. You will probably say all this is very unnecessary, as unnecessary indeed as are the opening words which I

have ventured to utter before your serious business begins. But I will ask you to believe that, while our welcome is most warm, our recognition is most serious of the importance of the work in which you are interested and which you are furthering by your meeting to-day. The University recognises the serious importance of that work, and it welcomes you as representing an effort to carry it further and further. We hope that, whether the weather be fine, or whether the weather be as it is at this moment, you will all enjoy your visit to Cambridge and believe that the University takes the greatest pleasure in seeing this Conference in its midst. (Applause.)

Alderman SPALDING the Mayor of Cambridge, also welcomed the members on behalf of the town. In the course of his speech he referred to

PHARMACISTS AS PUBLIC MEN.

In this connection he remarked: I am told that we are honoured, in this Borough of Cambridge, by the presence of one who has held the distinguished position of Chairman of the London County Council. (Applause.) I do not know how it is, ladies and gentlemen, but I presume it is due to your great intelligence, but the chemical profession is one that seems to me—certainly my experience in Cambridge confirms the impression I have—one which lends itself to a proper appreciation of the duties of citizenship. Here, in Cambridge, we are specially indebted to many members of your profession. One of our most respected townsmen—my old friend Mr. Alderman Campkin—(applause)—is a member of the Pharmaceutical Council. His name is a household word in this our Borough of Cambridge. His municipal activity is an example to all who ought to appreciate what the duties of citizenship involve. We have also among our number on the Council Mr. Purvis, a distinguished member of the University, who, I see, is also to take part in your deliberations here to-day or to-morrow. We have Mr. Richard Sturton and our old friend Mr. Field, all members of your profession, to whom the town of Cambridge is grateful; and perhaps that fact adds somewhat to the warmth of the welcome which I extend to you here. But, while remembering those who are still with us, I, for one, cannot forget those who have passed away. I daresay there are many in this room who remember the familiar faces of two of our old friends who in their day took a prominent and a useful part in the public life of Cambridge—I refer to the late Mr. Alderman Deck and the late Mr. Alderman Peck. I am glad to feel that, although those honoured officers of our borough have passed away, they are succeeded by sons who are worthily carrying on the work which their fathers left them to do. (Applause.) Although it has nothing whatever to do with the subject of the few remarks which I have to make, I cannot but express the hope that the time may not be far distant when these two good sons of two good fathers may find it part of their duty to participate in the public and official life of the town. ("Hear, hear," and applause.)

CONTENT WITH HIS LOT.

Professor SEWARD followed. What I have to do, he said, is to offer what I may call a domestic welcome to the members of the Pharmaceutical Conference. I happen at the moment to be the tenant of this building, and it is with very great pleasure that I have been able, through the University, to place this room at the disposal of the Conference. (Applause.) I am in, perhaps, a rather peculiar position in the University, as I think I may say as the tenant of this building I am almost content with my lot. (Laughter.) This Botany School is, as you may see, of comparatively recent date. It was opened by his late Majesty King Edward VII. about six years ago; and let me say we are rather proud of it. (Applause.) That is what I mean by saying that I am almost content, because I think this is one of the very best scientific buildings in Cambridge. (Applause.) Apart from the fact that we are able to offer you a fairly satisfactory lecture room, I think there is something very appropriate in the association between botany and pharmacy being maintained at this Conference. (Applause.) I need not dwell upon the past connection between those two branches of research, for every one is familiar with the facts. If it had not been for pharmacy in the early days it would be difficult to describe or say

what would be the position of botany at the present day. And if I may add, in conclusion, that to me it is also a pleasure upon personal grounds for me to be able to do anything to further the interests of this Society; because some years—I do not know how many—I think twelve years ago, I was examiner for a few years in Bloomsbury Square, and at that time I learned a great deal from the Society. (Applause.)

Alderman A. SYDNEY CAMPKIN next spoke on behalf of the Local Committee, and at the outset contrasted the Conference and the Pharmaceutical Society. He continued: When it was suggested, and when finally it was decided, to invite the Conference here, I can assure you that the members of that Committee experienced no small amount of fear and trembling, for we felt that we could not emulate the generous hospitality extended to its members by the Local Committees of towns visited in former years—notably, those in some of the Northern towns and in the great centres of population. But we were informed that the desire of the Conference was to come to Cambridge because of its associations and its connection with the world at large. It was my privilege years ago to attend the Oxford Conference. That was a great success and gave the utmost satisfaction. With regard to our county, I may say that we have made arrangements to show you something of the district outside the town, even although we were told that we need not have done so, in so far that the visit to Cambridge would take up the whole time that was left at the disposal of the delegates after they had attended the various lectures and discussions. A Transatlantic writer some fifty years ago, who was a graduate of this University, returning home after his residence here, described the surroundings of Cambridge as very dull and uninteresting, consisting, in fact, of fens, waste, and marshy land. Possibly this was partially true at that time, but certainly it is not true to-day. You will find in the course of your investigations that great attention has been paid to the surroundings of the county by agriculturists and others. Those many acres of fen land have been beautified and rendered most productive. In place of fen land you have now hundreds of acres of orchards and gardens, from which large consignments of produce are sent to all parts of the country. You will, however, find out all that for yourselves. The only thing we have been unable to do has been to control the elements. We hope, however, that even these may soon be in your favour. After you have spent a few days here we hope that you will find that the visit to Cambridge has been among the pleasantest visits you have experienced. In the name of the Local Committee I offer you a hearty welcome. (Applause.)

THE WELCOME ACKNOWLEDGED.

Mr. J. HARRINGTON, President of the Pharmaceutical Society, said: Mr. President, ladies and gentlemen, it is my pleasant duty, on behalf of the Pharmaceutical Conference, to thank the Deputy Vice-Chancellor and the Mayor of Cambridge for their kindly welcome to us to-day. May I, sir, addressing you as Deputy Vice-Chancellor, tell you how much we appreciate the eloquent speech that you gave us, and especially your references to the work that this Conference is trying to do. We remember, sir, that you, some years ago, were Principal of the University of Manchester, and there, I believe, you had an opportunity of seeing the work of the Pharmaceutical Section which was there taken in hand. During our meeting in Manchester in 1907, I believe it was, when the present Principal received us, we had the opportunity of seeing there and examining the work which you did for that seat of learning. We fully appreciate your coming here to welcome us, and that you have been able to spare the time to personally welcome us. As you know, sir, we go once a year to visit one of the principal towns either in Great Britain or in Ireland, and there we see many wonderful buildings, many interesting things, some of the best sights that can be witnessed. But in this ancient town of Cambridge we must all, I think, be impressed more than we usually are in cities which we visit by what we witness. Here we see, and are in the centre of, one of the greatest educational quarters throughout the whole civilised world, and whose fame is universally acknowledged. Here we see you carrying on every conceivable branch of education, while still

maintaining the ancient usages, custom and traditions of your ancient city. (Applause.) To you, Mr. Mayor, I desire to convey the thanks of the Conference for your happy and cordial welcome. We fully appreciate your coming here among us to-day as we had the pleasure of your company last night. We should like, sir, to take this opportunity of congratulating you on having been the second time elected Chief Magistrate of this ancient borough. (Applause.) And at the same time we would congratulate Cambridge on being favoured with the chance of getting so able a gentleman as yourself to fill its Mayor's chair. Mr. Harrington concluded with a humorous request to the Mayor for a little better weather. (Applause.)

Mr. G. CLARIDGE DRUCE (Oxford) seconded the motion in a sparkling speech, in the course of which (addressing Dr. Ward) he said: We do assure you, sir, we appreciate the privilege we have of being present in these beautiful surroundings, in a place so fraught with great history, and not only with great history but with the recognition of science which Cambridge has given. We have been extremely fortunate in having such a room in which to have our Conference. I look upon it with envy. In Oxford there is no contented professor. (Laughter.)

The PRESIDENT: This resolution it is not necessary for me to put formally. I have great pleasure, Dr. Ward, Mr. Alderman Spalding, Professor Seward, and Mr. Alderman Campkin, in conveying to you the thanks of the Conference for the very kind addresses of welcome which you have given to us. (Applause.)

Letters of Apology.

The SECRETARY then read letters of apology for absence. Mr. Attfield wrote: "I had longed to be with the British Pharmaceutical Conference at Cambridge on July 25, but, alas! neuritis imprisons me. I hope the assembly will be very successful." The other gentlemen from whom similar letters were received were: Mr. Charles Urney (London), Mr. S. R. Atkins, J.P. (Salisbury), Past Presidents of the Conference; Mr. W. L. Currie (Glasgow), Vice-President of the Pharmaceutical Society; Mr. Peter Boa (Edinburgh), Mr. E. W. Pollard (Ryde), Mr. John Dolbear (Oxford), Mr. D. Lloyd Howard (Stratford, E.), Mr. Peter MacEwan (London), Mr. Kay (Aberdeen), Dr. Symes (Liverpool), Mr. R. Wright (Buxton), Mr. A. Middleton (Nottingham). It was now 10.23 when the President commenced his address, which occupied half an hour, and is printed on pp. 185-189.

Thanks to the President.

Mr. N. H. MARTIN (Newcastle-on-Tyne), in moving that the thanks of the Conference be accorded the President for his address, said that it would be within the recollection of all of them that Mr. Ransom had recently suffered a severe illness. They were grateful that in God's providence he had so recovered as to be with them that day. (Applause.) They congratulated him and his family on his restored health, and earnestly hoped that the discharge of his responsible duties during the week would not in the least retard his complete physical restoration. (Renewed applause.) Mr. Martin, having alluded to the pleasure of meeting in Cambridge, said all would agree that the subject of the President's address on that occasion had been well chosen and admirably treated. (Applause.) The President had somehow chosen a subject on which he was *par excellence* an authority. He not only had had a scientific training, but he had also a wide experience in the cultivation and valuation of vegetable drugs. Therefore his address would possess permanent value when embodied in the volume of their proceedings, and they as members would read it with a great deal of care. Mr. Martin went on to emphasise the necessity of a curriculum, and dwelt in turn upon each of the subjects of the presidential address. The result of the address would be, he said, to suggest to them the many directions in which they could make their craft more useful to the community, and more profitable and pleasurable to themselves. It was one of the advantages of pharmacy that it opened up many channels for intellectual activity and enjoyment, and although from other points of view it was a depressing calling, they could go on and rejoice that they were ever attracted into the channel of pharmacy. (Applause.)

Mr. W. A. H. NAYLOR (London) remarked that it was with no ordinary pleasure that he responded to the invitation to second the vote of thanks to the President. On occasions like the present epithets were sometimes expressed which required the use of a considerable amount of imagination in order to perceive their applicability. But he thought it would be consonant with the feelings of the Conference if he said that the address to which they had listened was a very able one, that it travelled over a wide area of knowledge, and that it was full of sound common-sense and deep counsel that they would do well to take to heart. (Applause.) He might be permitted to refer to one point only as a matter of personal recommendation and advice to themselves. Unless the present generation, in which he might include himself, sought to qualify themselves for research of the character which would be demanded in the future, especially with reference to the examination of drugs—pure drugs—that class of work would pass out of their hands into those of others. This, he thought, would be greatly to their detriment. (Applause.)

The vote of thanks having been unanimously consented to, the President formally acknowledged it.

The ladies and many of the gentlemen at this stage withdrew.

Annual Report of Executive.

Mr. E. S. PECK (Senior Honorary Secretary) then read the annual report of the Executive Committee, which was as follows:

Your Committee wish in the first paragraph of its Annual Report to express to the members of the British Pharmaceutical Conference its deep sense of the severe loss which pharmacy has sustained by the death of the late Michael Carteighe. As Hon. Local Secretary at the meeting in London in 1874, as Hon. General Secretary from 1880 to 1882, and as Vice-President from 1883 to 1896, Mr. Carteighe showed his active interest in the welfare of the Conference, as in all other movements which had at heart the best interests of pharmacy. We also regret to have to record the death of Octavius Corder, who filled the Presidential chair when the Conference met in Nottingham in 1893, and of Charles Elkin, who was Treasurer from 1877 to 1884, and who contributed valuable papers to the Annual Meetings.

Since the last Conference the Executive Committee has met on six occasions, and the meetings have been attended by a large proportion of the members.

At the Annual Meeting at Newcastle, after the discussion upon the question of confining the dispensing of medical prescriptions to pharmacists, the following resolution was unanimously carried:

"That this matter be referred to the Executive Committee to consider, and, if thought advisable, to confer with the British Medical Association in reference to it."

After considerable correspondence extending over several months, a Conference was arranged, and took place on Thursday, May 19, at 429, Strand, W.C., the offices of the British Medical Association, under the Chairmanship of Mr. Edmund Owen (Chairman of Council of the British Medical Association). There were present, as representatives of the British Medical Association, Dr. Edwin Rayner (Treasurer), Dr. Munro Moir, Mr. C. R. Straton, Dr. C. H. Wise, Dr. J. H. Taylor, Mr. Smith Whitaker (Medical Secretary); and, as representatives of the British Pharmaceutical Conference, Messrs. J. F. Tocher (ex-President), H. Wippell Gadd, G. C. Druce, W. F. Wells, R. Wright, A. McMillan, F. W. Gamble, C. T. Allen, J. Righton, T. Maltby Clague, and E. Saville Peck (Hon. Secretary). Dr. Smith Whitaker reported that the Conference was the outcome of correspondence between the British Pharmaceutical Conference and the Council of the Association, through its medico-political Committee. The discussion, which was both interesting and valuable, turned principally upon:

(a) Medical dispensing; its extent; whether it should be transferred to pharmacists; and, if so, how the transfer could be effected.

(b) The nature and extent of prescribing by unqualified persons, and the means by which it may be prevented.

(c) The possibility of co-operation in action concerning the sale of dangerous, secret, or useless nostrums.

The question was considered as to the expediency of forming a joint standing committee, composed of members of the British Medical Association and the British Pharmaceutical Conference, to collect data and to promote the realisation of aims found to be held in common by both bodies. It was eventually decided by the Conference that the members of the Conference recommend to their respective bodies the institution of a joint standing committee

consisting of at least ten members of the British Medical Association and ten members of the British Pharmaceutical Conference. The Conference left in the hands of the Chairman and the Secretaries the work of preparation leading up to the institution of the said joint standing committee. The Executive recommend that the members of the Conference proceed to the institution of this joint standing committee, and suggest that those who were selected to represent the British Pharmaceutical Conference at the meeting in May be elected to serve on the joint standing committee.

On December 1, 1909, a deputation from the Federation of the Local Pharmaceutical Associations was received, consisting of Mr. W. L. Currie (Chairman), Mr. Edmund Jones (Hon. Secretary), and Mr. J. C. Pentney, with the object of putting before the Executive the views of the Edinburgh District Chemists' Trade Association, with regard to the formation of a commercial section of the B.P.C. The matter was gone into very thoroughly, and various opinions for and against the formation of such a section were advanced. After a lengthy discussion the following resolution was unanimously carried:

"That, with a view of testing the value of the suggestions made by the deputation of the Federation, and also of gauging the opinions of the members of the Conference generally, the Federation of Local Pharmaceutical Associations be asked to arrange for and to conduct a meeting on the lines indicated by the deputation on the afternoon of Tuesday in the Conference week at Cambridge, July, 1910."

The resolution was forwarded to the Hon. Secretary of the Federation, and he replied that the Federation would arrange such a meeting.

Mr. J. C. Umney, at the same meeting, gave notice that he would move "That Article I., Object 4 of the Constitution, shall read after the word 'established,' 'for the advancement of the science and practice of pharmacy.'"

The Research Sub-Committee and other matters were referred to, including mention of the presence of Colonial visitors.

Treasurer's Report.

Mr. J. C. UMNEY (Treasurer) next presented his report. He said:

When I last had the pleasure of reporting to you on the finances of the Conference, I was able to say that the position of the Conference was better than it had been for many years past, the balance on July 1, 1909, being 5*l*. as against a considerable deficit in previous years. The re-arrangement, however, of the financial year of the Conference, by which now the period of subscription covers the entire year from January 1 to December 31, somewhat modified the financial statement. It is, however, hoped that each financial year will now absolutely cover its own expenses; by which I mean that the subscriptions received during 1910 will pay for all expenses during the year, including the publication of the "Year-Book" and the Editor's salary. This has not previously been the case, the "Year-Book" being paid for only in small part during the current financial year. I am pleased to be able to report to you that 173*l*. in subscriptions has been received during the last six months of 1909, and 230*l*. during the first six months of 1910, making in all a receipt from subscriptions of 403*l*. After discharging all our liabilities, this will leave us with a balance in hand on the last day of June of 128*l*. The audited balance-sheet up to December 31, 1910, will be distributed to the members when the usual request is sent out for their subscription in January, 1911.

Mr. R. A. ROBINSON moved that the annual report and financial statement be received and adopted. He congratulated the Executive on the work that has been accomplished, especially in regard to the Conference arranged with representatives of the medical profession. The Treasurer's report was of that cheery and optimistic character that one would expect from Mr. Umney, who seems to have made the valuable discovery that by changing the financial year from January 1 to December 31 a deficit is changed into a balance in hand. He (Mr. Robinson) commended this idea to the Chancellor of the Exchequer. (Laughter.) It is a fact, nevertheless, that the Conference still needs more members, and he also drew attention to the suggestion that 7*s*. 6*d*. was only the minimum subscription.

Mr. JOHN SMITH (President of the Pharmaceutical Society of Ireland) seconded the adoption of the report. He said it would be nothing short of a calamity if the Conference abated its activity in the future. More could be done with increased membership. He noted that, although there is 128*l*. in hand, there would be the "Year-Book" to pay for, which might bring the balance on the wrong side.

The PRESIDENT then put the motion, which was carried unanimously.

It was now 11.23 A.M., when the President called on the authors of the following Papers to read their communications:

Bacteriological Standardisation of Disinfectants.

By Professor SIMS WOODHEAD and Dr. CONSTANT PONDER. The authors, in common with other workers, have been confronted by the difficulty of obtaining any reliable method of standard values for disinfectants under practical conditions of disinfection. The Rideal-Walker drop-method gave promise from the theoretical point of view of the most precise results, but it is not a method by which in the hands of casual, though fairly skilled workers, consistent results can be obtained. On analysing the process the following factors were picked out for consideration:

Organism to be acted upon.—*Bacillus coli communis*, being slightly more resistant than *B. typhosus*, was used as the test organism, because it is non-pathogenic and readily recognised with great certainty by the use of McConkey's bile-salts medium, without the use of the microscope.

The Number of Micro-organisms taken must be fairly large, if consistent results are to be obtained, the margin of error being enormously greater where small quantities of a culture are used than when larger quantities are taken with a spoon.

The Amount of Organic Matter introduced along with the micro-organisms is an important factor, as may be gathered from the fact that in experiments with bleaching-powder the addition of a small quantity of broth to water interfered with the bacteriological power of the "bleach" to a great extent.

The Strength and Number of Dilutions should be as close together but extend over as wide a range as possible, in order that full data may be obtained. Further, the intervals should be, as far as possible, equal, taking the form of a percentage difference. Only when these precautions are taken can the curve described be satisfactory.

The Time during which the Disinfectant is allowed to act must be more or less arbitrary, but it appears to be fair to all disinfectants (some of which act quickly and others more slowly) to take a mean between two extremes than to take any fixed point between two extremes.

Temperature.—A more or less arbitrary temperature, being the mean temperature met with in the temperate zone, has been adopted in the experiments. It has long been known that the carbolic-acid coefficient of a disinfectant may vary enormously according as the work is done with solution and emulsions kept at 55° F., or maintained at a temperature of 80° F., but the authors believe that even now the great importance of the working temperature has not been realised.

The process has yielded from the very outset most consistent results, and the following table is given to make clear the basis of the method:

Proportional and Percentage Dilutions													
Minutes	1/140	1/160	1/180	1/200	1/220	1/240	1/260	1/280	1/300	1/320	1/340	1/360	
	0.714	0.625	0.555	0.500	0.454	0.416	0.384	0.357	0.333	0.312	0.294	0.277	
2½	0	24	18	16	13½	13	13	12½	—	—	—	—	
5	0	0	0	18	17	13½	13½	13	—	—	—	—	
7½	0	0	0	0	19	15½	16	13½	—	—	—	—	
10	—	0	0	0	0	18	15½	14	13½	—	—	—	
12	—	—	0	0	0	19	16	15½	13½	—	—	—	
15	—	—	—	0	0	19	19	15½	15½	13½	—	—	
20	—	—	—	—	0	0	0	18	14½	13½	—	—	
25	—	—	—	—	—	0	0	0	17	14	13½	13	
30	—	—	—	—	—	—	0	0	17	14	13½	13½	

Carbolic-acid Control.

Percentage Dilution								
Minutes	1.10	1.00	0.917	0.846	0.786	0.733	0.687	0.647
2½ ...	0	0	16	16	—	—	—	—
5 ...	0	0	0	17½	—	—	—	—
25 ...	—	—	—	—	0	0	18½	18½
30 ...	—	—	—	—	0	0	0	18½

The coefficient of the above disinfectant at room-temperature 63° F. is therefore :

$$\frac{1.00}{0.714} + \frac{0.687}{0.557} = \frac{1.4}{2} + \frac{1.9}{2} = 1.65$$

Great stress is laid on obtaining a complete chart from which to contract a curve (from the data obtained from last time and dilution factors), along which it will be seen that the figures derived from the table check one another very closely, the intermediate figures, though not used, being of considerable value in building up a general picture of results. The figures used are those obtained at the extreme points of the curve, the mean between these being taken to indicate the carbolic-acid coefficient of the disinfectant. It is evident that all comparisons as regards the germicidal activity of disinfectants can be accepted as reliable only under the conditions obtainable, which are at present of the simplest and most limited character. These comparisons must, however, be made and deductions drawn therefrom before further advances can be made. Experiments carried out on a single organism give the carbolic-acid coefficient of any disinfectant solution in respect to that organism only, and for practical purposes the coefficient for the special organism dealt with in the disinfecting process will have to be obtained. Some further modification of the above method, apparatus, and media may therefore be required to meet special cases and circumstances.

Bacteriological Testings of Disinfectants: Results as Affected by Varying Conditions.

By C. T. KINGZETT, F.I.C., and R. C. WOODCOCK, F.I.C.
(From the Laboratories of the "Sanitas" Co., Ltd.)

THE investigation deals with a number of commercial coal-tar disinfectants purchased publicly between May 1908 and September 1909. The Rideal-Walker coefficients in respect to *Bacillus typhosus* are shown in the first column of Table I.; and being arranged according to type in order of their efficiencies. Similarly, the normal coefficients of the disinfectants were determined in respect to other germs under the conditions indicated, and finally the investigation was extended to ascertain the possible influences of higher temperature or extension of time, or both combined, as affecting the *B. typhosus* coefficient. Disinfectant No. 1 is "Sanitas-Okol," and No. 2 is of a similar type, both being emulsions. No. 3 is "Sanitas-Bactox," which, like Nos. 4 to 12 inclusive, is homogeneous in character, yielding a milky-white emulsion on admixture with water. The other germicides (denoted in the tables below as chemical germicides) examined for comparative purposes were hydrogen peroxide (9-10 vols.) (No. 13) and formaldehyde (37-39 per cent.) (No. 14).

The following changes were made from the normal Rideal-Walker process in order to obtain more uniform results: Ten drops of a forty-eight hours' broth culture (-1) were added to the usual amount of diluted disinfectant under test, two loopfuls of this solution being taken according to the customary routine for subculture. The other conditions as regards results in the appended table were normal except where otherwise stated. The figures in parentheses at the head of the tables refer to the acidity or alkalinity of the respective broths.

It must be borne in mind that the Rideal-Walker test is useless for determining the real values of coal-tar and other disinfectant preparations as employed in actual practice. To anyone acquainted with the real value of hydrogen peroxide and formaldehyde as germicides it must seem absurd to suppose that the very insignificant figures (Nos. 13 and 14) in the above table express their true germicidal power. In other words, while the Rideal-Walker test may very well serve to determine the relative germicidal values of similarly prepared coal-tar preparations, it is not applicable for ascertaining the real or relative values of other disinfectants of a different chemical nature.

Table II. shows the percentage increase (denoted by + sign) or decrease (denoted by - sign) of coefficient with various organisms under varying conditions of time and temperature, using the Rideal-Walker test again as the standard.

TABLE 1.*

No. of Sample	Rideal-Walker Coefficient	<i>B. coli</i> (+15)	<i>Staphylococcus pyogenes aureus</i> (+15)	<i>Staphylococcus pyogenes aureus</i> (-1)	<i>B. diphtherie</i> (-1)	<i>B. typhosus</i> (+15) at 37° C.	<i>B. typhosus</i> (+15) Time 1-1½ Hour	<i>B. typhosus</i> (+15) Time 1-1½ Hour at 37° C.
<i>Emulsions.</i>								
1	22.0	18.6	10.9	18.3	28.0	19.0	20.5	15.0
2	18.0	13.7	9.3	—	19.1	16.6	17.25	12.9
<i>Homogeneous.</i>								
3	20.0	16.3	11.3	—	35.0	31.5	21.2	19.0
4	19.0	15.3	8.0	15.6	28.0	—	—	—
5	18.0	14.0	5.3	11.3	20.0	—	—	—
6	17.0	13.4	9.3	—	—	—	—	—
7	16.0	11.8	7.25	12.0	24.0	22.5	20.0	14.5
8	12.0	10.0	5.3	9.1	13.3	—	—	—
9	9.5	8.4	—	—	—	—	—	—
10	2.5	2.3	0.8	1.1	3.5	—	—	—
11	2.4	2.1	1.3	—	4.3	—	—	—
12	2.3	2.1	2.0	—	4.6	—	—	—
<i>Chemical Germicides.</i>								
13	0.04	0.04	—	—	—	0.09	0.20	0.39
14	0.35	0.30	0.19	—	—	0.43	0.91	1.8

* This table is a condensation of three by the authors. The others also embody more numerous tables in the original.—ED. C & D.

TABLE II.

No. of Sample	Rideal-Walker Coefficient	<i>B. coli</i> (+15)	<i>S. aureus</i> (-1)	<i>S. aureus</i> (+15)	<i>B. diphtherie</i> (-1)	<i>B. typhosus</i> (+15) at 37° C.	<i>B. typhosus</i> (+15) for 1-1½ Hour	<i>B. typhosus</i> (+15) for 1-1½ Hour at 37° C.
<i>Emulsions.</i>								
1	22	P. cent. -16	P. cent. -17	P. cent. -47	P. cent. +27	P. cent. -14	P. cent. +3	P. cent. -23
2	18	-24	—	-48	+19	-8	+4	-28
<i>Homogeneous.</i>								
3	20	-19	—	-44	+75	+58	+18	-11
4	19	-20	-18	-58	+47	—	—	—
5	18	-22	-34	-71	+11	—	—	—
6	17	-21	—	-45	—	—	—	—
7	16	-25	-25	-53	+50	+32	+18	-15
8	12	-17	-24	-56	+11	—	—	—
9	9.5	-12	—	—	—	—	—	—
10	2.5	-8	-56	-68	+40	—	—	—
11	2.4	-13	—	-45	+79	—	—	—
12	2.3	-9	—	-13	+100	—	—	—
<i>Chemical Germicides.</i>								
13	0.04	nil	—	—	—	+125	+403	+875
14	0.35	-14	—	-46	—	+23	+160	+414
<i>Carbolic Acid.</i>								
—	1	-10	nil	-20	+80	+80	+70	+220

The emulsified preparations (Nos. 1 and 2) show a small falling-off in the coefficient value with increase in temperature.

Regarding coal-tar preparations of the homogeneous type (Nos. 3-12) there is, speaking generally, a considerable increase in disinfectant value with increase of temperature. It is to be remarked that both peroxide of hydrogen (No. 13) and formaldehyde (No. 14) pick up very largely in disinfectant value under increased temperature, and intensely so under increased temperature coupled with increased time of exposure. These last results are significant in contrast with the slight loss of disinfectant value exhibited by the coal-tar preparations under similar conditions. Carbolic acid also shows a real increase in relative coefficient value with higher temperatures and longer exposures.

Table III. is useful for showing the dilutions (the figures referring to the parts of water containing one part

of disinfectant) of the several disinfectants therein referred to which were found necessary to kill germs under varying conditions. The results speak for themselves.

TABLE III.

No. of Sample	Rideal-Walker Coefficient	<i>B. typhosus</i> (+15)				<i>B. coli</i> (+15)	<i>S. aureus</i> (+15)	<i>B. diphtheriae</i> (-1)
		7½ Mins. at 15-18°C.	1½ Hr. at 15-18°C	1 Hour at 37° C.	1½ Hr. at 37° C.	7½ Mins. at 15-18°C.	7½ Mins. at 15-18°C.	7½ Mins. at 15-18°C.
<i>Emulsions.</i>								
1	22	2,000	3,250	4,000	—	1,400	800	4,400
2	18	1,700	2,400	3,500	—	1,300	800	3,500
<i>Homogeneous.</i>								
3	21	2,000	5,200	—	—	1,500	950	6,000
4	19	1,900	—	—	—	1,200	600	4,000
5	18	1,800	—	—	—	1,400	400	2,800
6	17	1,700	—	—	—	1,300	800	—
7	16	1,500	3,200	—	—	1,000	550	3,650
8	12	1,300	—	—	—	1,000	200	2,600
9	9.5	1,000	—	—	—	800	—	—
10	2.5	250	—	—	—	230	65	60
11	2.4	240	—	—	—	200	140	750
12	2.3	230	—	—	—	200	170	1,000
<i>Chemical Germicides.</i>								
13	0.04	6	—	—	—	4.5	—	—
14	0.35	33	160	450	550	28	18	—
<i>Carbolic Acid (Average).</i>								
—	1	100	170	300	320	90	80	180

That the disinfectant coefficients of coal-tar disinfectants vary according to the precise nature of the test imposed is proved by the fact that the coefficients shown by the Rideal-Walker test become enormously depreciated when the same preparations are subjected to examination by the Martin and Chick tests, using a 3-per-cent. admixture of dried faeces. Nos. 1 and 2 drop from 20 and 18 Rideal-Walker coefficients to 1.6 and 1.5 by the Martin and Chick method. With homogeneous coal-tar preparations, three preparations with Rideal-Walker coefficients of 20, 17, and 10 gave coefficients of 1.6 (3.5), 1.6, and 1.3 (1.8) respectively when faeces are also used. The figures in parentheses refer to the results obtained by an outside experimenter for the same disinfectants. The ortho-oxalic ester of phenol has coefficients of 5.2 and 1.3 respectively by the two methods, while a homogeneous coal-tar preparation with a modest Rideal-Walker coefficient of 4 shows a higher value (2) by the Martin and Chick test than any of the other preparations of the same general class but varying chemical composition.

The presence of added organic matter was found also to depreciate the coefficient value (about 15 per cent.), but nothing like so seriously as is shown in the Martin and Chick tests. With further reference to this last-named test, as it might be conjectured that the loss of coefficient value is due to some extent to the mechanical action of the solid matter (faeces) which is used, some simple experiments were made, introducing like amounts of kieselguhr, powdered pumice, and precipitated chalk respectively, without any effect whatever upon the efficiency of that preparation.

The Woodhead-Ponder Method of Testing Disinfectants.

By R. TANNER HEWLETT, M.D., F.R.C.P.

THE following criticisms and suggestions were advanced in this communication:

1. Drs. Woodhead and Ponder state that the spoon holds 0.08 c.c. and contains more than three times as much as a standard loop. It is found that the spoon contains at least 0.10 c.c. and carries over about 0.15 c.c., which is 10 to 15 more than a standard loop. If it be necessary to "seed" with three to four times the quantity carried by a standard loop, all that is necessary is to have a wire with three to four loops instead of one loop.

2. It is very questionable if there be any need to "seed" the sub-cultures with more than a standard loopful. The apparent necessity in Woodhead and Ponder's work is due

to the fact that the McConkey medium is far less delicate than Lemco broth for sub-culturing.

3. The use of *Bacillus coli communis* instead of *Bacillus typhosus* is probably a desirable change. Much work requires to be done, however, in order to ascertain if various strains of *B. coli* show much variation in resistance, and, if so, whether this effects the coefficient.

4. The use of a larger number of dilutions of disinfectant and carbolic acid is desirable, but is really equivalent to doing three to four Rideal-Walkers, though it is done in less time. The Rideal-Walker rack may be modified to contain six to eight tubes of disinfectant solutions, and similarly six to eight culture tubes in each series. This will serve every purpose.

5. The extension of the time-limit from fifteen to thirty minutes is of questionable utility, at least for "coal-tar" derivatives. An extension to twenty minutes may be desirable, and may be done by adding another series of sub-cultures in the Rideal-Walker method, the last time-interval being taken as five instead of two and a-half minutes.

6. The performance of the test always at a standard temperature—*e.g.*, 65° F.

7. Woodhead and Ponder's method of calculating the coefficient (the mean of that at two and a-half and that at thirty minutes) practically always raises the coefficient over that obtained at an early period. It therefore tends to reduce the "factor of safety" as given by the Rideal-Walker method, which is thus proved to be a *stringent test*.

8. Astonishing statement that no disinfectant has been met with having a coefficient above 13.

Testing Disinfectants.

By Dr. A. SOMERVILLE.

IN this paper, which was handed in at the last moment, the author said that workers should bear in mind that the escape of a single micro-organism would suffice to produce a large number of offsprings, thus making the test an exceedingly delicate one. This delicacy may possibly account for the differences observed by various investigators. It had also recently occurred to him that the drop in the coefficient which some workers have noticed may be due to the composition of the broth. Probably the addition of one of the various nitrogenous constituents to a given broth would modify the results. The Rideal-Walker figure has been advertised by some makers of disinfectants several points higher than can be obtained if rightly conducted. If carried out as laid down by the originators of the test uniform results are obtained. The author then passed round three cards giving results which he contended proved the absolute accuracy of the R.-W. test. In regard to the chemical side of the subject, which has been considered by "The Lancet" Commission, the method detailed requires a good deal of time. He had found that an excellent idea of the so-called phenoloids can be obtained by simply resorting to the Liebig method of fractional distillation. One can get all the oxidising coal-tar products over at a temperature between 200°–265° C., the distillate being received in graduated cylinders and the amount read off.

Professor G. SIMS WOODHEAD read the first paper, and showed the apparatus which he employs, this including a device for rapidly and systematically sterilising and cooling a series of platinum cups which are used for inoculating purposes. He particularly emphasised the importance of withdrawing the spoon rapidly from the culture so that a sufficient amount of culture adheres to the spoon. By means of the apparatus 120 tubes can be prepared in half an hour. A basket of test tubes were shown to make apparent the colour change, which is one of the features of the method. He also claimed that an analyst can get up the test in a single day and that anyone who had never previously done such work could obtain reliable results in a week. Many of the results have been given in "The Lancet" for November 20, 1909.

When Mr. KINGZET read his paper it was past twelve o'clock. He said the pith of it was in the tables given, and at the end testified to the value of the R.-W. test, which he is "firmly convinced is the best method of determining the relative germicidal values of similarly prepared coal-tar disinfectants."

When Professor HEWLETT came to his paper there was a lively cross-questioning of Professor Sims Woodhead as to the method of holding the spoon (alluded to above) and the need for special apparatus for which the R.-W. test does not call.

DISCUSSION.

DR. SAMUEL RIDEAL, in opening the discussion, said that during the past five years bacterial methods of valuing disinfectants had been more used than chemical, and the method most employed is that of Mr. Ainslie Walker and himself (1903). He recalled "The Lancet's" proposed modification of the Rideal-Walker process, and its advocacy of the bromophenoloid process for coal-tar emulsions as giving a decided clue to germicidal power. He had criticised "The Lancet's" method, as a result of which "The Lancet's" Commissioners modified their chemical process (December 18, 1909), but in Dr. Rideal's experience even this does not give definite results. Thus, on a Saturday he obtained by it 41.59 per cent. of phenols, and on the Monday after 33.49 per cent. There is no difficulty in determining the bromine absorption of phenoloids; it is in the germicidal factor $\frac{P-B}{3}$ that the error

lies, in Dr. Rideal's opinion, for with carbolic acid that factor represents zero, so that carbolic disinfectants would be returned as of no germicidal power! Moreover, nothing definite is known about the relation between bromine absorption and germicidal value. He submitted figures for three disinfectants ("cyllin" and two others prepared by Mr. Ainslie Walker) which showed R.-W. carbolic-acid coefficients of A 19.25, B 15.25, and C 25.9, which gave $\frac{P-B}{3}$ equal to A 7.4, B 6.2, and C 5.9, and "The Lancet" bacterial test A 5.2, B 5.5, and C 6.5—irreconcilable figures. Dr. Rideal observed that "The Lancet" Commissioners agreed that the Rideal-Walker test, if properly carried out, is accurate, and proceeded to criticise "The Lancet" bacterial test, contrasting it in detail with the R.-W. test, and replying to the Commissioners' criticisms of the latter, pointing out that the four main faults alleged by the Commissioners are not faults inherent in the test, but are due to the test not being carried out according to the R.-W. method. He explained, e.g., the failure of the Commissioners in getting satisfactory results by their use of bullock's-heart broth instead of Lemco, recommended by Mr. Ainslie Walker and himself. This he proved by the following results: Coefficient of disinfectants tested with Lemco: A 19, B 19, C 19.5; with bullock's broth: A 10, B 7, C 13. Some amusement was caused by the assertion that the results vary according to the size of the bullock's heart from which the broth is made. Finally, Dr. Rideal said that "The Lancet" test does not agree with the R.-W., for three reasons: (1) Different culture medium; (2) different test organism—R.-W. *Bacillus typhosus*, and "The Lancet" *B. coli*; and (3) the use of spoons instead of loops. The remarks were illustrated by means of figures on the blackboard, and Dr. Rideal caused many laughs by the merciless way in which he handled the critics of the R.-W. test.

DR. FIELMAN said the chemical side of the question interested him. He said that any method that proposed to determine the percentage of total phenolic bodies to two places of decimals is impossible in practice. In his opinion an accuracy of half per cent. is about as much as can be expected with ordinary precautions by any method. It is more accurate to determine the volume, specific gravity and water contents of the isolated phenolic bodies, from which data the dry weight and percentage can be readily calculated. A quantity of 25 grams should be taken in place of 10 grams recommended by "The Lancet" Commissioners. Dr. Fielman then gave the details of the process as worked by him to separate the phenols, the sp. gr. being taken in a small pycnometer. He added that the method of separating the phenols did not differ from that described by Ditz and Clauser in the "Chem. Zeitung," 1898.

MR. J. E. PURVIS thought that Dr. Rideal's remarks required a reply from him. In regard to his "cynical criticism of an empirical formula," the speaker said that empirical formulæ are made use of every day for the purpose of correlating equivalents. He recommended Dr. Rideal to read "The Lancet" report more carefully and with a little less bias. The formula recommended is purely tentative and can be amended, but until far more conclusive evidence is obtained the formula must remain empirical.

MR. J. F. TOCHER considered the method of Professor Sims Woodhead and Dr. Ponder a distinct improvement on the Rideal-Walker method, for several reasons. As there was not time to discuss the details, he would only offer a suggestion on one point, bearing on the interpretation of the results. The authors take the extreme coefficients, and striking the mean give that as the measure of the bactericidal power of the disinfectant compared with that of phenol. This method is not statistically sound. The account method of interpreting the results shown on the table would be to evaluate the coefficients for each dilution, for each time period, and to calculate the mean value of the coefficients so found. The figure obtained would give the true bactericidal measure of the disinfectant com-

pared with phenol under the conditions of the experiment.

MR. FINNEMORE, referring to the distillation of mixtures of homologues, said that Dr. Sidney Young has shown that concordant results can be obtained by fractional distillation. He (the speaker) had found that with organic liquids very good approximate results can be obtained.

MR. C. T. KINGZETT said that as applied to coal-tar disinfectants, "The Lancet" process does not give accurate results. How can "The Lancet," therefore, in face of the evidence of chemists of standing, apply the results of the chemical tests as evidence of the accuracy of the bacterial methods?

PROFESSOR SIMS WOODHEAD, replying to what he called the "rollicking discussion" of Dr. Rideal, said the latter has brought forth some points which will have to be met. His (the speaker's) experiments have been directed to obtaining the best results, and he contended that with his method the margin of error is reduced. He used carbolic acid for comparison, because it is absolutely necessary to have a standard for comparison. If results with an emulsion and a solution differ, one must have conditions which are fair to both. The same applies to the use of a definite temperature. He protested against being asked to accept a test, because it has been the conventional standard for seven years; that is no proof that it is the best. The difference between the use of *B. coli* and *B. typhosus* is not so great as to interfere with the general run of the test.

THE PRESIDENT said it had been decided to take the following paper as read:

Interpretation of Water-analysis Reports.

By J. E. PURVIS, M.A.

It is impossible to fix any standard by which waters can be judged and condemned, as illustrated by the following examples:

—	A	B
Free Ammonia	0.004	0.0032
Albuminoid Ammonia	0.014	0.1400
Chlorine	2.100	5.2000
Oxygen absorbed in two hours at 80° F.	0.124	0.0150
Nitrogen as Nitrates	0.285	0.0200
Microbes (per c.cm.)	214	214

In sample of water A, the albuminoid ammonia, the chlorine content, and oxygen absorbed would indicate some contamination, but the bacterial analysis gives a low figure, and the water, which is supplied to a large town, is considered to be a good water. In sample B these three figures would indicate some pollution, but as a matter of fact the water was bacterially pure, and it could not be condemned for drinking purposes. Other analyses could be given which would prove that no final judgment can be given either on the result of the chemical analysis or in many instances perhaps even on bacterial analysis, since the latter depends upon the type of bacteria found in the presence of non-pathogenic organisms not necessarily condemning the water. Before a final judgment can be delivered upon any water there have to be taken into consideration (1) its geological history, (2) the rainfall about the time of collection, (3) the method of storage and distribution, (4) the surface drainage, and (5) a bacterial analysis.

THE PRESIDENT then called upon the author of the following paper:

Some Old English Herbals in the Botanical Library at Cambridge.

By J. REYNOLDS GREEN, Sc.D., F.R.S.

THE early writings concerned with botany and materia medica are little more than a chaotic mixture of magic, astrology, and the healing art as then understood, and anything like accurate knowledge emerged but gradually. On the Continent progress began earlier than in England, but the pioneers can be traced no further back than Brunfels (1530), Fuchs (1542), and Bock a little later. In these writings were lists of plants, but the arrangement adopted was primitive in the extreme. These early herbals were based upon the "Hortus Sanitatis," ascribed to Cuba, which dated back to 1485, a copy of which is in the Cambridge library. This work was largely the source of the

"Grete Herbal," the first serious publication in England, appearing in 1516. It was a small folio of about 350 pages, exclusive of the preface and index. The work was very crude. Turner's "New Herbal," published in 1551, was the first part of a work intended to be a history of plants, the second part appearing in 1562, and the third in 1568. It was characterised by much originality and dependence upon his own observations rather than those of the ancients. The arrangement was, however, still defective, but his successors endeavoured to remedy this. The most noteworthy endeavour was shown in L'Obels' "Stirpium Adversaria," where the plants were crudely grouped into forty-four large tribes or families according to the external appearance. L'Obels' second work, his "Observationes," published in 1576, was embellished with 1,486 figures from blocks which had been cut for the Continental writers and which may still be seen in the Musée Plantin at Antwerp.

Gerard's "Herbal" was next referred to, and its popularity among physicians mentioned. It was founded on the Pemptades of Dodoens, and appeared at a time when the knowledge of plants was being greatly extended by the Elizabethan travellers, whose information was duly incorporated in the "Herbal." The classification was still crude, but the detailed descriptions of several species were much happier. The first folio appeared in 1597. To Thomas Johnson, an apothecary and botanist, is due the great 1633 edition of Gerard's work. He so enlarged and improved Gerard's work that for long afterwards it made the book the most important and influential of the time. Mention was next made of Parkinson's "Paradisus," published in 1629, which was chiefly a work on gardening. It was overshadowed eleven years later by the "Theatre of Plants," a work intended to have contained only the medicinal plants and arranged upon the supposed qualities or virtues of the plants described. The "Phytologia Britannica" of How, published in 1650, distinguished between British and foreign plants, and, although based on Johnson's "Mercurius," contained the results of the actual exploration of the country by a considerable circle of ardent friends of the author. It was arranged in the alphabetical order of the Latin names. This publication marks what was practically the end of the period of the herbalists. A few years later the works of Ray and of Morison marked the epoch at which the herbal gave place to the flora, and botany in England became a branch of science.

The books referred to were exhibited on the table, but time did not allow of them being handed round.

DISCUSSION.

Mr. G. C. DRUCE said it was a happy thought that Professor Green should give such a paper because of the fact that he (Professor Green) had just extended Sachs's "History of Botany" to the present time. Referring to the exhibits, Mr. Druce said that Turner was a Cambridge man and wrote his book when exiled to Germany on account of his religious opinions. There are some instructive references in the "Herbal"; for instance, water germander is said to grow in Cambridgeshire, and it is still to be found in the same spots. There is a copy of L'Obel's work at Oxford, which was cut up by L'Obel preparatory to making a second edition of the book. It passed into possession of Howe and then of Goodyear, from whom it was received by Magdalen College. He noted that many of the books shown by Dr. Green belonged to the botanist Martin.

Mr. ALCOCK remarked upon the way old authors had of embodying in the title of their works a play upon their name. Mr. H. W. Jones had suggested that this was the case with Parkinson with the title "Paradisus in Sole."

Dr. GREEN thanked the Conference for the way they had received his paper, and the meeting adjourned for luncheon at the Lion Hotel.

Second Session—Wednesday.

A brighter morning and prospect of a fine day was what greeted the members on coming down to breakfast on Wednesday. The session opened at a few minutes after half-past nine.

Mr. H. Finnemore (Junior Secretary) read a list of delegates representing the following bodies:

LIST OF DELEGATES.

Pharmaceutical Society of Great Britain and the North British Branch.

Pharmaceutical Society of Ireland.
Aberdeen Chemists' Association.
Bath Pharmaceutical Association.
Bradford Chemists' Association.
Croydon Pharmacists' Association.
Forfarshire Chemists' Association.
Glasgow and West of Scotland Chemists' Association.
Guildford Chemists' Association.
Huddersfield Chemists' Association.
Leeds Chemists' Association.
Leicester Pharmacists' Association.
Liverpool Chemists' Association.
London Chemists' Association.
Western Pharmacists' Association.
Chemists' Assistants' Association.
Public Pharmacists' and Dispensers' Association.
Manchester Pharmaceutical Association.
Midland Pharmaceutical Association.
Newcastle-on-Tyne Pharmacists' Association.
North Kent Pharmacists' Association.
Nottingham Pharmaceutical Association.
Oxford Chemists' Association.
Portsmouth Pharmacists' Association.
Stockport Pharmacists' Association.
Torquay Pharmacists' Association.

A paper was then read on

Turmeric.

By F. H. ALCOCK, F.I.C., Ph.C.

TURMERIC has always occupied a place in the appendix of the British Pharmacopœia, and the amount of its ash is not recorded in the valuable collection of such data which have been published. To establish the genuineness of a sample of turmeric which was being used to colour lacquer the amount of the ash was determined, together with that of other samples, from different sources and in various states. The following results were obtained:

			Ash Obtained	Loss at 212° F.	Alcohol Solubility
			%	%	%
No.	1. Powder (1896)	...	7.2	11.5	9.0
"	2. " 1907	...	6.44	11.1	9.5
"	3. " (Laboratory)	...	7.1	10.0	8.5
"	4. " (Retailer)	...	5.25	11.5	5.0
"	5. Lump (Museum)	...	5.8	8.5	9.5
"	6. Powder (1) (Wholesaler)	...	6.6	11.4	7.5
"	7. " (2)	...	5.2	11.0	6.0
"	8. " (Retailer)	...	6.4	11.7	7.0
"	9. Lump (Retailer)	...	5.7	11.3	6.0
"	10. " Long (Wholesaler)	...	5.4	7.4	7.0
"	11. " Round	...	6.62	10.4	8.0
"	12. " " Exterior (Wholesaler)	...	7.0	8.0	2.5
"	13. " " Interior	...	5.0	12.5	7.0

The lowest figures were from the cortical part of a sample of "round" turmeric.

DISCUSSION.

Mr. N. H. MARTIN (Newcastle-on-Tyne) said the information it contained was valuable for placing on the records of the Conference. They never knew what sample an inspector might ask for under the Food and Drugs Act, and it would be a good thing if people who had the time would make investigations and place the result of these on record.

Mr. ALCOCK then read the following paper on behalf of the author:

The Effect of Age on the Composition of Oil of Anise.

By ARTHUR W. KNAPP, B.Sc., F.I.C.

THIS communication arose from the Birmingham public analyst's report for October-December, 1909 (*C. & D.*, 1910, I., 205), in which a sample of aniseed oil was found to melt at 8° C., and to be sp. gr. 1.012. This was considered to be due to age, which view was confirmed by the vendor, who had bought it about ten years ago, and a member of the B.P. Committee of Reference in Pharmacy stated that it was a genuine oil distilled from *Pimpinella Anisum*. The author now submitted a comparison of the factors of the oil (A) with those of a 23-year-old sample of star-anise oil (B) obtained from Mr. F. H. Alcock, and other substances, as shown in the following table (temperature °C.):

—	Fresh Anise Oil	A	B	Anethol	Anisic Aldehyde
Sp. gr. at 15° ...	0.980-0.990	1.012	1.092	0.987 (21°)	1.126
Opt. rot. 100 mm. M. P. ...	0 to -2.0° Above 15°	+0.2° 8°	+1.5° Liquid at -15°	Inactive 21.3°	— -4°
Sol. in alcohol 90 p.c. ...	1 in 3	Mix all proportions	Mix all proportions	Very sol.	—
Residue after evap. at 100° ...	9 p.c. (Umney)	18 p.c. (Umney) to 25.8 p.c.	63 p.c.	—	—
Iodine absorbed p.c. (Wijs)	115-125	113	58	—	—
Ref. Ind. ...	1.566 at 16.5° (Parry) 1.562-1.558 at 25° (Hill & Umney)	—	.539 at 16°	1.5615 at 18° (Tankard) 1.617 (Thorpe)	—

Parry's and Tankard's refractive indices are for the D line, the author's with sodium flame, and Thorpe's H line; others not stated, and the author pointed out that the figures for this factor otherwise show need for standard conditions. From all the figures it appears that as anise oil ages:

- (1) The specific gravity increases.
- (2) The optical rotation passes from left to right. (Dextro-rotation is often taken as an indication of adulteration.)
- (3) The solidifying and melting points of the oil fall. (Mr. Alcock's sample was cooled in a freezing mixture to -15° C. with constant stirring; it became more viscous, but did not crystallise.)
- (4) The solubility in alcohol and water-alcohol mixtures increases.
- (5) The percentage of oil that can be evaporated at 100° C. decreases. (The above figures for residues were obtained by evaporating in shallow dishes for four hours in a water-bath and seventeen hours in hot-air oven. The sticky and semi-solid residue had refractive index (Na) at 16° C. of 1.544.)
- (6) The percentage of iodine absorbed decreases.
- (7) The refractive index decreases.
- (8) The percentage of oil boiling above 230° C. increases. (The oldest sample gave 20 per cent. (irritating to eyes) below 220° C., 40 per cent. from 225° C. to 230° C., and 40 per cent. above 230° C.)

Mr. J. C. Umney (*C. & D.*, February 25, 1899) found that only 15 per cent. of fresh star-anise oil distilled above 230° C. To what is this change in the composition of the oil due? The oil, on exposure to air, may undergo oxidation and polymerisation. Oxidation is the more usual explanation of the changes, but it is doubtful if oxidation could have occurred in the sample: it had been kept in a well-corked bottle, and to change 5 oz. of anethol ($C_{10}H_{12}O$) into anisic acid ($C_8H_8O_3$), and the accompanying acetic acid ($C_2H_4O_2$) would require roughly 45,000 c.c. of oxygen. The author tested for anisic aldehyde and anisic acid, with practically negative results.

Mr. J. C. Umney ("Perfumery and Essential Oil Record," February 1910) explains the figures of sample A as being due to the production of a non-crystallisable polymer of anethol. The changes in Mr. Alcock's sample also appear to be due to polymerisation or possibly condensation, and his final inference is that the polymer is possibly isanethol ($C_{10}H_{12}O_2$). The communication raises the interesting legal question: At what point in its gradual change from one mixture to another of different physical, chemical, and presumably different therapeutic properties does oil of anise cease to be of the "nature, substance, and quality demanded"?

DISCUSSION.

MR. J. C. UMNEY remarked that many samples had been returned from Japan because their character did not accord with that of genuine oil of anise. Some of the leading

German firms had had samples returned as not conforming to the Pharmacopœia of Japan. He referred to Mr. Liverseege's investigation as public analyst, and continued: How far pharmacists are called upon to guard against such charges one does not quite know. Great care, however, should be taken of storage. In the case of fennel oil and similar oils, the pharmacist should take care that his supplies are fresh.

MR. NAYLOR asked if it was not possible to take the genuine oil of anise and polymerise it, then examine the product. They could then see whether the product was one of condensation or not, and ascertain with some definiteness whether it was one or other of the substances mentioned in the paper. Moreover, some knowledge of the subject might be obtained by some kind of comparative examination.

MR. FINNEMORE remarked that we have no knowledge of what the constants of the oil were twenty-three years ago. A few experiments would tend to show whether the change is quickened by heat or by passing air through. It is easy to take aldehydes and condense them. He suggested that the author should try and find out what the change is. Had he tested for hydrogen peroxide? It is often present in traces when aldehydes oxidise to alcohol.

MR. J. R. HILL said that some time ago he examined a series of Oriental essential oils, and found some bland oil present. Had any search been made for the presence of fixed oil? The sample passed round seemed to have a slight camphoraceous odour. He agreed with Mr. Finnemore's remarks, adding that he had samples thirty to forty years old which did not show any thickening. Were they justified in thinking that the sample was originally a genuine oil?

MR. ALCOCK replied that he thought he would keep a tit-bit up his sleeve to the last. (Laughter.) He did not think Mr. Hill was quite right in his surmise, because the oil was soluble in alcohol or water and alcohol mixtures. Again, it was suggested that the condition of the oil arose from free acid, but it did not contain acid at all. With regard to the genuineness of the oil, he would not dare to tell them from whom he bought it, particularly as they had heard some doubt expressed as to its genuineness.

MR. NAYLOR: But did you purchase it as genuine?

MR. ALCOCK: We must pass that by. If I mentioned the name we would all agree as to the genuineness.

MR. NAYLOR: That is what we wanted to know.

MR. ALCOCK: Mr. Naylor likes the positive rather than the negative. (Laughter.) Proceeding, Mr. Alcock submitted a sample of savin oil which, he said, he purchased at the same time as the oil of anise. This had been kept in exactly the same conditions. The same change occurred, and yet there was no question about the genuineness of the sample. He had many consultations with Mr. Knapp on the subject, and one suggestion was to take the saponification figure. The Koetstoffer figure was 78.4, while a sample from Messrs. Southall gave 4.9, and Dieterich suggested 5.1. This increased the difficulty with regard to the composition. No doubt Mr. Knapp would again take up the matter.

THE PRESIDENT said that changes take place in all essential oils, but these largely depend on the conditions in which they are kept.

Cinnamon-bark Oil.

By JOHN C. UMNEY, F.C.S., and C. T. BENNETT, B.Sc., F.I.C.

THE authors had intended to refer in this paper to results obtained in the distillation of cinnamon bark and the physical and chemical characters of the oils produced, but their intention has been somewhat modified by statements recently made regarding the handling of essential oils containing constituents easily separated and assayed. Mr. Charles A. Hill in his admirable paper on cinnamon-bark oil (see *C. & D.*, June 25, p. 959), referred very pointedly to the probable admixture of true cinnamon-bark oil with cassia oil or synthetic cinnamic aldehyde, and pointed out that if cinnamon bark oil be retained in a pharmacopœia and in pharmacy, it must be for some reason obviously other than the percentage of cinnamic aldehyde. The justification or otherwise of using or mixing oils containing the same active constituents was referred to recently in a paper read before the Perfumers' Association in New York by Dr. F. C. Dodge, in which it was stated that—

"Oils of equal purity as regards sorts may vary enormously in value, and indeed an impure oil may sometimes be of better quality than a strictly pure one. For example, an oil

of cinnamon bark, low in aldehyde, may be, and possibly often is, improved by the addition of aldehyde from other sources, or an oil of bay, deficient in phenol, as frequently happens, may be brought up to the standard by judicious admixture with eugenol obtained elsewhere."

Would he go further than this and follow with the statement that an oil of dill may be improved by the addition of a certain quantity of carvone from caraway oil, that an oil of pimento may be improved by the addition of eugenol from clove oil? In such case one would never know exactly where one was in oils where a constituent was common to two or more of them. The authors strongly protested against Dr. Dodge's statement, and said that while oils containing the same important constituents are official in a Pharmacopœia, it must be obvious that it is for some definite purpose, as clearly in the case of dill, caraway, pimento, and clove oils, as in the case of cinnamon-bark oil, which is official in the British Pharmacopœia, and not cassia oil, and the oils must answer *characters* as well as *tests*. They pointed out that the aroma and sweet taste of cinnamon-bark oil give it a great advantage over cassia oil and artificial cinnamic aldehyde, although for the purposes of soap perfuming and similar uses cassia oil is undoubtedly valuable. The market value of cinnamon-bark oil is at least ten times that of cassia oil, the value of dill oil three times that of caraway oil, and oil of pimento is practically double the price of oil of cloves—facts which show to how dangerous a point such principles as Dr. F. C. Dodge has advocated would bring us. If such principles are accepted it will be necessary to frame different tests from those hitherto put forward, and to insist that where oils are required for certain odorous principles which they possess, apart from certain well-defined constituents, the oil selected for use for medicinal flavouring shall be of such character as will admit of little chance of addition of a particular chemical constituent obtained from a cheaper source.

In dealing with the question of the oils of cinnamon and cassia of commerce, the fact must not be lost sight of that certain Pharmacopœias describe as oil of cinnamon the oil derived from *Cinnamomum cassia*. The United States Pharmacopœia describes the latter oil as oil of cinnamon or oil of cassia, although it contains monographs for *Cinnamomum zeylanicum* (Ceylon cinnamon) and for Saigon cinnamon. The German Pharmacopœia also recognises the oil of cassia under the title of oil of cinnamon, but the Spanish, French, and Italian Pharmacopœias recognise the true oil of cinnamon bark, the first-named giving sp. gr. 1.004 to 1.006 for the oil.

The authors have recently distilled considerable quantities of cinnamon bark, with a view to determining the percentage yield and characters of oils distilled from unbroken quills to chips of various grades of cinnamon in continuance of their experiments in 1893. In a paper by J. C. Umney ("P.J.," 3, xxv., p. 949) were recorded the characters of samples of cinnamon-bark oil distilled in England (including the author's firm), the specific gravities ranging from about 1.024 to 1.029. It is not certain that every care was taken to finally mix together the heavier and lighter distillates, so the experiments have been repeated, and in taking every precaution in the collection of all the fractions of the oil, the authors could not obtain a higher sp. gr. than 1.016. Messrs. Stafford Allen & Sons, Ltd., have also communicated their experience, as outlined in their observations in the *C. & D.*, March 5, 1910, p. 372. In the authors' experiments the average percentage of oil obtained from cinnamon quills and chips was as under:

—	Percentage yield	Sp. Gr.
Bold quills	0.84	1.006
Broken quills	0.71	1.016
Chips	0.56	0.996

The full particulars of those distilled by Messrs. Stafford Allen & Sons, Ltd. (for which the authors are indebted to Mr. T. Brewis), extend over some years, and are as follows:

Temp. and Press.	Lbs. wt.	Quality	Oil per cent.	S.G. at 15° C.
Low temp. ...	54	Chips	0.35 Light	0.974
" ...	50	"	0.26 " "	—
" ...	50	"	0.25 Heavy	—
" ...	50	"	0.16 Light	—
" ...	50	"	0.32 Heavy	—
High press. ...	224	"	0.62 Bulkcd	1.012
Low temp. ...	150	"	0.30 " "	0.9592
High press. ...	224	"	0.53 " "	—
" ...	448	"	0.51 " "	—
" ...	448	"	0.49 " "	—
" ...	448	"	0.53 Bulkcd	0.985
" ...	448	"	0.67 " "	—
" ...	336	"	0.70 " "	—
" ...	241	"	0.91 " "	—
" ...	56	"	0.41 Light	0.983
" ...	42	Brken quill	0.77 " "	1.002
" ...	—	"	— Heavy	1.018
" ...	54	Chips	0.45 " "	1.013
Low press. ...	587	Quill	0.93 Bulkcd	0.994
" ...	1094	"	0.93 " "	0.997
" ...	192	"	1.04 " "	1.009
" ...	291	"	0.91 " "	1.008
" ...	1660	"	1.0 " "	1.005
" ...	56	Brken quill	0.3 " "	(Quills fine) 1.003

From these results it would almost appear that the characters hitherto accepted for cinnamon-bark oil have hardly been based upon complete normal distillates of the bark, and that the sp. gr. lower limit should be dropped very considerably as compared with the ideas put forward by Messrs. C. A. Hill and J. C. Umney in their proposed monographs for the next B.P.

Mr. C. A. Hill, in his recent paper, made a considerable point of the refractive index of true cinnamon-bark oil, constituting a reliable indication of its purity. The following constants obtained from various oils and fractions of oils support his views:

No. 1.—Very fragrant, very sweet, but not a normal oil, imported direct from Ceylon

—	Per Cent.	Sp. Gr.	Ref. Index at 25°
Original Oil	—	0.944	1.5178
Fraction 1	20	0.867	1.4790
" 2	20	0.863	1.4880
" 3	20	0.936	1.5115
" 4	20	1.008	1.5564
Residue 5... ..	20	1.005	1.5748

No. 2.—Distilled by Wright, Layman & Umney from broken quills.

—	Per Cent.	Sp. Gr.	Ref. Index
Original Oil	—	1.016	1.5760
Fraction 1	20	0.890	1.5002
" 2	20	0.994	1.5568
" 3	20	1.032	1.5864
" 4	20	1.048	1.5928
Residue 5... ..	20	1.051	1.5746

No. 3.—Distilled by Wright, Layman & Umney from Ceylon "chips."

—	Per Cent.	Sp. Gr.	Ref. Index
Original Oil	—	0.956	—
Fraction 1	20	0.886	1.4934
" 2	20	0.984	1.5442
" 3	20	1.027	1.5750
" 4	20	1.046	1.5912
Residue 5... ..	20	1.051	1.5736

No. 4.—Distilled by Stafford Allen & Co., Ltd.

—	Per Cent.	Sp. Gr.	Ref. Index
Original Oil	—	1.004	—
Fraction 1	20	0.684	1.4925
" 2	20	0.993	1.5565
" 3	20	1.029	1.5826
" 4	20	1.048	1.5934
Residue 5... ..	20	1.052	1.5723

No. 5.—Continental distillation, guaranteed pure.

—	Per Cent.	Sp. Gr.	Ref. Index
Original Oil	—	1.021	1.5840
Fraction 1	20	0.918	1.5142
" 2	20	1.024	1.5878
" 3	20	1.042	1.6033
" 4	20	1.048	1.6078
Residue 5... ..	20	1.053	1.5955

No. 6.—Continental distillation, guaranteed pure.

—	Per Cent.	Sp. Gr.	Ref. Index
Original Oil	—	1.030	1.5920
Fraction 1	20	0.963	1.5428
" 2	20	1.026	1.5883
" 3	20	1.040	1.6002
" 4	20	1.050	1.6068
Residue 5... ..	20	1.058	1.6070

It will be observed that the light fractions found in the normal oils are not present in the two Continental oils, and the questions arise :

1. Have only the heavy fractions been collected inadvertently?
2. Have the light fractions been intentionally rejected to obtain compliance with the B.P. 1898 requirements? or
3. Do oils contain cassia oil or synthetic cinnamic aldehyde which have the following characters: sp. gr. 1.073 and ref. index 1.6160?

The authors could not say where the solution of the problem lies, but it is evident the Continental oils have not the characters of normal distillates of cinnamon-bark oil. They are, moreover, distinguishable by odour and nearly so by taste. What then is the position? Is cinnamon oil to be viewed as a flavour, to be judged by its sweetness and delicacy, or as a remedial agent required to contain a definite percentage of cinnamic aldehyde? If the former it should be a light normal distillate; if the latter, let us have pure cinnamic aldehyde as does the U.S.P. (though cassia oil is also official) or 80 to 85 per cent. cassia oil.

DISCUSSION.

The PRESIDENT said the fact that a natural oil had to be converted into an official oil by an addition was one that called for remarks.

Mr. BREWIS agreed with Mr. Umney's remarks. At Cowper Street his firm had found that in no case can a normal cinnamon oil be obtained of the gravity of the B.P. The paper was an answer to critics of the use of the refractometer. He had recently taken the refractive index of cinnamic aldehyde, and found it to be 1.6715 against 1.564 of a normal cinnamon oil. If the odours are compared there can be no difficulty in arriving at the conclusion which is the better.

Mr. MARTIN said he was glad that Dr. Dodge's statement had been exposed. He also referred to the importance of these papers on essential oils.

Mr. T. E. LESCHER said that in his company's laboratory a series of Continental samples had been examined, and out of six only two were pure, the rest having had cinnamic aldehyde added. In his opinion the flavour of cinnamon oil is the most important, and perhaps the medicinal value in influenza depends upon the purity of the oil.

Mr. T. STEPHENSON recalled the fact that when cinnamon oil was first recommended in a paper in the "British Medical Journal," the author specially emphasised the importance of the purest oil being employed.

Mr. ALCOCK said that it is true that some analysts are also pharmacists, but one of these had recently told him that if he found a synthetic product used in place of an official article he would certainly condemn it.

Mr. UMNEY, in reply, said that probably the medical statement was a somewhat loose one. There would, however, be no sale for a mixture of cassia oil and cinnamic aldehyde on account of the inferior flavour.

The Proposed Essential-oil Monographs.

By H. JOHN HENDERSON.

THE author commended publication of suggested official monographs for criticism, but considered it anomalous and irregular that two or more members of a committee should do the work, and urged that "a tentative report of an official character should be an impersonal one: a considered judgment formed from the evidence of published facts."

This and other comments had reference to the paper by Messrs. C. A. Hill and J. C. Umney, in which the suggested monographs were embodied (see *C. & D.*, February 12, p. 271). The author questioned if more stringent tests will be productive of anything greater than a stimulus to further activity in a certain kind of research of an undesirable character. He objected to terms of indefinite meaning, such as "normal natural distillate," and such words as "natural" and "rectify," used by Messrs. Hill and Umney. As to the introduction of the refractometer, he submitted reasons why the refractive indices should find no place in the official monographs. The author then proceeded to comment upon the suggested new monographs for the British Pharmacopœia drafted by Messrs. Hill and Umney, and the following are abstracts of his remarks:

Oleum Anthemidis.—The oil distilled by Messrs. W. Ransom & Son from the dry official flowers is always optically inactive. The optical rotation should be from 0° to +3°. Schimmel & Co. have frequently examined Roman chamomile oils with a rotation below +1°. They and Brewis ("Ph. J." [4], 30, 182) refer to the difficulty of determining the factor, owing to the colour of the oil. The light is absorbed in a very remarkable way, even by an oil of a yellowish colour, but if the observations are taken in a dark-room, using metallic sodium as the source of light, the observer being efficiently screened from the glare, the illumination is sufficiently great to make the observation reliable. If the dark oil is redistilled over water, a nearly colourless distillate is obtained, which the author has not found to display optical activity. The oil distilled from dry flowers has not hitherto been blue, and that distilled from the fresh flowers is not always so; the latter is sometimes olive-green, and, according to Umney, bluish or bluish-green. Change of temperature influences the solubility of this oil in spirit, thus 5 c.c. of oil formed a cloudy solution with 0.5 c.c. of 90-per-cent. alcohol, which became clear at 30° C.; 1 c.c. of 90-per-cent. alcohol formed a cloudy solution at 15° C. and became clear at 20° C.; 1.5 c.c. of 90-per-cent. alcohol formed a clear solution at 15° C.; 1 c.c. formed a clear solution with 6 c.c. of 70-per-cent. alcohol.

Oleum Anethi.—If the carminative principle of this oil is carvone, the latter might be officially recognised. Carvone cannot be profitably prepared from the oil, but from other sources it is cheap, and to exclude fortification of the oil with it the author suggested a sp. gr. range of 0.900 to 0.920, instead of 0.900 to 0.910 suggested by Hill and Umney. Oil distilled from fruits grown in Lincolnshire had sp. gr. 0.9148 and optical rotation of +75.25, and would be excluded from any future Pharmacopœias if the suggested standards were adopted, as it exceeds both limits for specific gravity and optical rotation.

Oleum Carui.—With reference to the fractional distillation of this oil for proof that it contains 50 per cent. of carvone, the author spoke of the necessity for a standardised method of fractionation and correction for exposed thermometer column, as the error may exceed 3°. If the distillation is allowed to proceed from start to finish with a slowly rising thermometer at the rate of 1 drop per second, the receivers being changed as the various temperatures are reached, the results obtained differ greatly from those obtained by allowing the thermometer to just reach the temperature required, and then, directly it rises above it, removing the source of heat for a period long enough to allow the thermometer to fall through 20° C. or 30° C. before reapplying the flame. The following extraordinary results were obtained when fractionating two samples of dill oil:

English Oil.—Sp. gr., 0.9013, $\alpha_D + 79.2$, absorption by sodium sulphate, 44 per cent. by vol.

—	A	B	C	D
Below 185° ...	19.0	26.0	32.0	31.0
185–200° ...	13.0	5.2	2.0	0.6
200–220° ...	4.9	5.6	5.0	3.2
220–230° ...	12.0	11.2	10.0	12.6
	48.0 c.c.	48.0	49.0	47.4

A and B were by the continuous method, C and D by the discontinuous method.

Foreign Oil.—Sp. gr., 0.9159, $\alpha_D + 73.3$, absorption by sodium sulphate, 51 per cent. by vol.

—	A	B	C	D
Below 185° C. ...	11.5	7.7	26.0	17.5
185–200° ...	13.0	13.4	3.0	8.6
200–220° ...	6.0	7.6	7.0	3.2
220–230° ...	16.5	16.8	13.5	17.6
	47.0 c.c.	45.5	49.5	46.9

A and B were by the continuous method, C and D by the discontinuous method. A nitrogen-filled mercury thermometer graduated from 100° C. to 360° C. in half-degrees was used throughout, and the temperatures are apparent temperatures. Schimmel's flask was used. These results are given to show that there is need for further investigation in this subject. Fifty c.c. of oil was taken for each experiment, and the distillation was stopped when the oil had darkened and decomposed to such an extent that it was useless to proceed further.

Oleum Copaibæ.—The author considers the proposed optical-rotation standard (-7° to -35°) legally useless, as no magistrate would uphold it. The optical rotation of copaiba may be dextrogyre and its oil levogyre. A sample of Maracaibo copaiba (sp. gr. 0.9915) gave $+17^\circ$ in a 50-mm. tube, and after filtration 100 mm. gave $+34^\circ$, $+32^\circ$, and $+33^\circ$. It yielded 50 per cent. of oil when distilled *in vacuo*, sp. gr. 0.9057, and opt. rot. $\alpha_D - 8.3^\circ$. A sample of Para balsam (sp. gr. 0.953 and $\alpha_D - 19.5^\circ$) yielded 76 per cent. of volatile oil when distilled under reduced pressure (16 mm. Hg.). It boiled steadily at 145.5° C. for some time, and then the temperature gradually fell to 143.5° (uncorrected). The distillation was very rapid, all the oil coming over in five or six minutes, resin was brittle and easily powdered. Sp. gr. of this oil, 0.903 and $\alpha_D - 22.3^\circ$, soluble in own volume of absolute alcohol, soluble in 9 volumes of 94.9-per-cent. alcohol. A sample of oil obtained from the same balsam was distilled at first in a current of steam. The oil came over very slowly, and the flask containing the balsam was heated over gauze and then with a naked flame. The same yield of oil was obtained, sp. gr. 0.939 and $\alpha_D - 11^\circ$, which shows the effect of bad distillation upon the quality of the oil. The author commended distillation *in vacuo*.

Oleum Lavandulæ.—The author has recorded gravities as low as 0.883, 0.8825, and 0.8815 for Ransom's oil. English oil of lavender, properly stored, quickly increases in gravity—*e.g.*, an oil which when recently distilled was sp. gr. 0.8846, after storing for three months had increased to 0.8856. It was once stated that some of the English distillers fractionated their oils, but this idea probably had its origin in a misunderstanding. It will be readily understood that the first runnings from a distillate are likely to be dark in colour, for which reason they are collected separately and redistilled, the distillate being afterwards mixed with the bulk. These redrawn distillates have sometimes a lower and sometimes a higher specific gravity than the first runnings—*e.g.*, in 1903 the first runnings from one distillate had a sp. gr. of 0.8825 and the redrawn oil 0.8805, while in 1906 the first runnings were 0.8907, redrawn 0.8973. These last runnings are but a small fraction of the bulk. The specific gravities recommended (0.883 to 0.900) are reasonable, and a reduction in the maximum is desirable. The author also discussed the ester-percentage question, saying that it is threadbare, as no evidence has been adduced to show that esters improve the odour or have anything to do with the medicinal value. He deprecated foreign attempts to make it the basis of value, and regretted that Hill and Umney had failed to supply in their monograph "a much-needed impetus to the lavender-cultivation in this country," referred to by Umney and Bennett in 1905. He considered that it would have been just

as wise to follow the U.S.P. and have no ester-percentages in the monograph.

Oleum Pimentæ.—Hill and Umney suggest sp. gr. 1.040 to 1.055, and 65 per cent. of eugenol. The author remarked: "W. Ransom & Son distilled an oil having sp. gr. 1.021. The introduction of a quantitative test for eugenol cannot prevent the fortifying of an oil with the cheaper eugenol. It does not encourage the production of genuine oils; on the contrary, it actually induces a distiller to adjust his oils to an official standard profitably. It is useful for oil of cloves, because the oil is cheaper than eugenol."

Oleum Rosmarini.—THE CHEMIST AND DRUGGIST, in a summary which balanced the evidence for and against the suggested standards of Messrs. Hill and Umney, referred to the fact that the suggested optical rotation 0° to $+15^\circ$ excluded Spanish oils, but they omitted to notice that it also excluded the majority of English oils. The C. & D. seems to have made a little slip, as it was the French oils which were levorotatory, $-8^\circ 30'$ and -3° respectively, while the Spanish oil was dextrorotatory in the paper to which they refer, and therefore is not excluded by the suggested optical standard. The English oil is greatly superior to the foreign oil in aroma, and some explanation should be forthcoming as to why it has been excluded. It is quite beside the point to say that the amount distilled is so small that it is of no importance. This may be the German opinion, but it is very unlikely that they will desire to foster an English industry. There is no doubt that the exclusion of levorotatory oil is deliberate, for the oils from foreign herb reported upon by Parry and Bennett were distilled in the laboratories of Messrs. Wright, Layman & Umney. They (Parry and Bennett) said: "The results of our examination prove beyond doubt that a levorotatory oil is consistent with purity" (C. & D., 1906, 68, 671). It is common knowledge that the majority of English oils are levogyre. It has been firmly established that pure rosemary oils, whether they be English or foreign, can be dextrorotatory and levorotatory, yet in the face of this evidence some of the foreign and nearly all the English oils are to be excluded from the Pharmacopœia. The English oil-distilling industry requires all the encouragement it can obtain, and it will be strange indeed if genuine English distillates of high quality are excluded from the British Pharmacopœia.

DISCUSSION.

The PRESIDENT said there were many points in this paper which cover the same grounds as the previous papers.

Mr. UMNEY said that the paper published by Hill and Umney was not a communication of the Pharmacopœial Revision Committee. The idea of publishing it was to elicit the opinion of others before deciding on the monographs in the new pharmacopœia. It is the intention to publish a paper on alkaloids and another on oils, fats and waxes for the same purpose of obtaining criticisms beforehand. The official standards become modified by the advance of knowledge as in the case of cod liver oil. He did not say "what I have said I have said," but if he altered his opinions it was from greater knowledge or because of the criticisms of friends like Mr. Henderson. The inclusion of the refractive index is a point that the Committee have to consider; although thought to be unnecessary by German houses it is curious that German reports always include the refractive index in their notes. His (the speaker's) views on copaiba oil had shifted, because the B.P. definition of derivation would exclude some recently introduced oils which are undoubtedly genuine. There is a joint committee of the Society of Public Analysts and the Pharmaceutical Society which has power to consider cases on the borderline and does so.

Mr. TAYLOR (Derby) said that retail pharmacists rely on the tongue and nose in the case of essential oils, and this is an accurate guide in the case of cinnamon oil. Kraemer states that English oil of lavender is only a laboratory curiosity. Such statements should be received with caution.

Mr. H. W. GADD remarked that it was seldom he was in agreement with Mr. Umney, but it seemed to him a most wise policy to publish unofficial reports before the publication of the Pharmacopœia. It had often been said that the standard of the Pharmacopœia was a legal question. To his mind it was not a question of law, but rather one of fact. He was glad to hear from Mr. Umney that the Joint Committee of the Pharmaceutical Society and the Society of Public Analysts is still alive.

Mr. BREWIS thought the expression "normal oil" is apt to be misunderstood. One might distil a drug and yet not get a normal oil. Oil of dill from fruits not quite ripe gives a low gravity and too high rotation, just the type from which it would be suggested the carvone had been removed. The refractive index is just one more mesh in the net to catch adulterated oil. It would be interesting to work out the solubility of oils in various media at definite

temperatures; this might form a useful additional test. Some dill oil distilled in Lincolnshire which he examined some years ago gave different gravity for each Winchester. He thought it was because the oil had not been carefully bulked. Pimento oil is on the same footing as cinnamon oil; sp. gr. 1.028 represents a true oil of pimento. The flavour of the true oil is much more agreeable than that of higher gravity.

Mr. MARTIN said that Mr. Gadd's remarks were liable to mislead pharmacists. It will be very much a legal question when the new B.P. is published. Magistrates will treat the question in the same way as they do the milk standards.

Mr. GADD explained that what he said was that it was not a point of law, but of fact as to whether a particular standard should be adhered to. The question of milk is not quite analogous, as standards have been fixed by the Board of Agriculture.

Mr. CRIPPS said there are two ways in which a standard of the B.P. may be rebutted: (1) by showing that the tests are inaccurate or (2) that there is a recognised commercial standard. In the case of mercurial ointment, a uniform commercial standard could not be shown.

Mr. BURFORD said the B.P. is only presumptive evidence. Mr. ALCOCK said there is some confusion of names in regard to essential oils. Is English oil of dill an oil distilled in England from English-grown dill or foreign-grown dill?

Mr. HENDERSON then replied at considerable length, and after he had passed the personal element (chiefly in regard to Mr. Umney and Mr. Hill as authors of the paper criticised) reiterated his criticism of the Committee of reference, and concluded with the remark that the experiment made by Mr. Brewis was not successful because he did not distil the oil of dill from the proper material.

Note on Periodicity of Properties of the Elements.

New Arrangement.

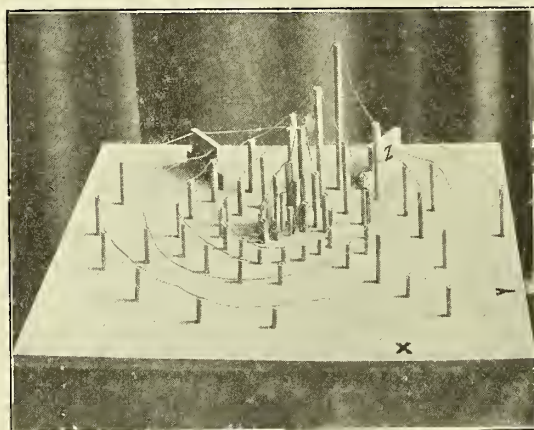
By J. F. TOCHER, B.Sc., F.I.C.

THE classification of the elements according to their physical properties is a subject of theoretical and general interest, besides being of practical importance to teachers and manufacturers. From the purely chemical side no advance in classification has been made since the days of Newlands, Meyer, and Mendeléeff. Mendeléeff's classification is admittedly empirical, but until physicists give us a classification on a theoretical basis completely descriptive of the periodic properties of the elements, Mendeléeff holds the field. This note describes a modification of his arrangement which may ultimately prove to have a satisfactory theoretical basis and which, as a practical result, places elements of like properties in similar positions, while elements with unlike properties are separated by distances proportional to the intensities of their differences. In constructing the periodic table, the following assumptions were made:

1. The elements are capable of being arranged in a logarithmic spiral. This method, for two dimensions, was applied by Loew in 1897, but he did not succeed in placing elements with like properties together—in other words, he failed to give a theoretical basis to the classification.
2. The radius vector, r , in three-dimensional space, is a function of the atomic weight and of the atomic volume of each element.
3. The vectorial angle is a function of the valency of an element. In the spiral it is the angle between two adjacent radii, one with an element E^n , and the other with an element E^{n+1} , with next higher atomic weight. The angle has the constant value $\theta = \frac{\pi}{g}$.

In order to show the relative magnitudes of the atomic weights and volumes of the elements and the effect of valency as represented by an angle, a model was constructed. The atomic weight of each element is here shown as a length on the xy plane and the atomic volume as a height on the xz plane (the plane perpendicular to the xy plane). If valency be defined as the combining power of an element with hydrogen (when hydrogen has been found actually to combine with the element) the valency varies as $\sin \theta$, being zero along the x axis and a maximum at 90° and at 270° . The inert gases are at the base of the first quadrant, the elements F, Cl, Br, and I on the next radius, the angle $\theta = \frac{\pi}{g}$ intervening between them. The divalent elements follow on the next radiating line, then the trivalent elements P, As, and Sb, and, lastly, at an angle of 90° , the elements C and Si and the other members of that group. Thus in this quadrant (the upper right-

hand or first quadrant) we have all the electro-negative elements in a group together, the less negative being near the less positive metals in the next quadrant. The second quadrant and part of the first contain all the heavy and noble metals, while the third quadrant and part of the



MODEL OF NEW ARRANGEMENT OF THE ELEMENTS.

The distance from the centre on the $x y$ plane is proportional to the atomic weight, and the height (on the $x z$ plane) is proportional to the atomic volume. Elements on the same straight line (through the centre of the model) belong to the same period. The angle between any element and the next higher or atomic weight is constant ($\frac{\pi}{g}$).

fourth contain the rarer elements. Finally, the remaining portion of the fourth quadrant contains the alkali metals and their allies and is strongly electro-positive. The atomic volume attains a maximum on the univalent radius which embraces the alkali metals and gradually falls, on passing the radiating lines through 180° , when the atomic volume slowly increases again during the remaining portion of the circle, until the maximum is again reached. The elements of the eight period are placed on the radiating line, each group of three being reckoned as one element. These elements, unless treated in this manner, do not fit the scheme. The advantages of this method of arranging the elements will be best noted on examining the diagram and model.

DISCUSSION.

Mr. WHITE said the paper was interesting as showing the connection between the function of numbers and the grouping of elements which have properties in common. The rare earths and alkaline earths are in a more rational grouping.

Mr. HARRISON asked where was the novelty of the paper. Perhaps if Mr. Tocher would explain the formula on the blackboard this would be apparent.

Mr. TOCHER explained the formula, but said it had no connection with his paper.

Mr. FINNEMORE said Professor Collie arranged the elements on a spiral for his students. This method seemed to be a fascinating one to Scotsmen.

Mr. TOCHER said it was true that the elements have been before arranged in a logarithmic spiral, but never in the same way.

Mr. COWIE considered it an improvement on Mendeleef's grouping.

Native Reserves.

By G. CLARIDGE DRUCE, M.A., F.L.S.

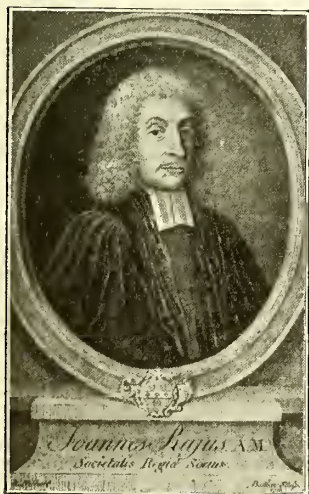
AFTER pleasantly alluding to the connection between the botanical experts at Cambridge University and pharmacists, the author referred to the continued encroachment on the fens of Cambridgeshire and the marshes of Oxfordshire as the need for corn-growing land increases. These natural areas are the haunt of certain insects and wild flowers which die out as the conditions change. It is therefore desirable to conserve for national purposes small isolated areas of fen, moor, bog, or woodland in which native species grow, and into which no alien element should be intentionally introduced. The author then referred to the acquisition by London of Burnham Beeches, and by Oxford of the woodland and marsh known as the

Ruskin Reserve. Cambridge has also the advantages of Mr. Verrall's acquisition of part of Wicken Fen, where the Swallow-tail butterfly is plentiful, and its food-plant *Peucedanum palustre* grows with the marsh pea (*Lathyrus palustris*), the sweet gale (*Myrica Gale*), and many other rare and local species of plant and insect. Mr. Verrall has reintroduced the Copper butterfly, and it will be especially interesting to see if the characters by which it differs from the English form become in time modified by its surroundings. Recently Mr. Charles Rothschild has purchased a portion of fen-land near Wood Walton, which is also to be preserved as one of Nature's sanctuaries in which animal, bird, insect, and plant life will remain secure. Like the Ruskin Reserve, this has considerable scenic beauty, and it possesses two species of peculiar interest, since they have only recently been added to the British flora by Mr. Hunnybun, of Huntingdon, who is preparing a series of drawings of British plants for presentation to Cambridge University. These two species are a violet, *Viola montana*, L., a tall species, 9 to 12 inches high, of upright habit and conspicuous flowers, and a wood-rush, *Juncoides pallescens*, Bess., recently also found in Surrey. With these grow the rare fen violet, *V. stagnina*, and the common heath violet, *V. canina*, L. The three species of *Viola* mentioned hybridise in a most perplexing manner. On the occasion of the author's visit he also found a hybrid between the two bedstraws *Galium erectum* and *G. verum*, showing all gradations. There also grows the reed-grass (*Calamagrostis canescens*, Druce), the sedge (*Carex Oederi*, Retz), the pink (*Dianthus Armeria*, L.), and many other species. Vipers are also abundant, and insect life is remarkably rich. The latter includes the Purple Emperor, the Marbled White, several fritillaries, the Duke of Burgundy, two or three species of blues, and two hair-streaks, one, the very rare and local black hair-streak, being first made known as a British insect from the vicinity.

John Ray.

By G. CLARIDGE DRUCE, M.A., Ph.C.

THE author exhibited a recently discovered seventeenth-century manuscript concerning John Ray, the distinguished



botanist, whose portrait is given here, being reproduced from the frontispiece to "Select Remains of the Learned John Ray, M.A. and F.R.S., with his Life, by the late William Derham, D.D., Canon of Windsor, and F.R.S.," which was published by George Scott, M.A. and F.R.S., in 1760. John Ray was the son of Roger Ray, Black Notley, Essex, and entered St. Catherine's Hall, Cambridge, on June 28, 1644, Trinity College in 1646, became a Junior Fellow of the latter in 1649, graduated M.A. in 1651, and became a Senior Fellow of the College. He was tutor to Mr. Francis Willoughby,

of Middleton Hall, whose name appears with that of Ray in the paper dated July 23, 1659, exhibited by the author to the Conference. It was a list of plants growing about Cambridge by Samuel Corbyn, and dated 1656-1657, therefore three years before Ray's first publication, "Catalogus Plantarum circa Cantabrigiam nascentium." Mr. Druce proceeded to tell how Ray spent his life in travel until 1670, when his "Catalogus Plantarum Angliæ" was published. He married in 1673, and in 1682 his "Methodus Plantarum Nova" appeared, this containing a natural arrangement of plants based chiefly on the characters of the fruit, the work foreshadowing his *magnum opus*, "Historia Plantarum Generalis" (1686-88), wherein British plants are distinguished from exotics, 6,900 being

described. His other works were "Fasciculus Stirpium Britannicarum" (1688), "Synopsis Methodica Stirpium Britannicarum" (1690)—which became the pocket companion of every British botanist, and a second edition appeared in 1696. He died at Black Notley on January 17, 1705, at the age of seventy-eight. Mr. Druce considered that Ray was one of the greatest botanists which Britain has produced. His European herbarium and letters are in the British Museum.

DISCUSSION.

THE PRESIDENT recalled that Mr. Druce's paper at Dundee had resulted in the erection of a monument to Don which he (Mr. Druce) was to unveil in a few weeks' time.

Mr. J. R. HILL said it would interest Mr. Druce to hear that more than a hundred years ago the minister of the parish of Selkirk induced the Duke of Buccleuch to fence off a part of Ettrick Forest, and there was a report published some years ago as to the changes that had taken place in the course of time.

Mr. PECK said he was responsible for getting Mr. Druce to agree to read these two notes, and he was sure the meeting would agree that he was justified in pressing Mr. Druce to prepare them. There is a Ray Society, which discusses Ray's work. He had mentioned the matter to Mr. J. W. Clarke, of Trinity College, a distinguished antiquary, who was to have read a paper on Cambridge, but could not do so because of his ill-health, and Mr. Clarke at once replied, "Why are not the Ray MSS. at Trinity?"

Mr. DRUCE said he was grateful for the way the papers had been received. It was true they were hardly suitable for reading at the Conference, but he held that chemists should do their best to uphold the traditions of the old apothecaries, especially now that botany is not part of the medical syllabus. There was a third paper with the Ray MSS., which was a list of Cambridge plants written by one Samuel Corbyn, of Trinity, about whom he was unable to get any particulars from Ray's works.

Phosphoric Acid and Ammonium Phosphate.

By T. E. WALLIS, B.Sc., F.I.C., Ph.C.

Phosphoric Acid.

THE preparation of a dry and powdered lead monoxide by the ignition of pure lead peroxide is a somewhat tedious process, owing to the ready fusibility of the oxide, which also attacks the glaze of a porcelain crucible, resulting in the sacrifice of a crucible for almost every determination of phosphoric acid by the pharmacopœial method. The official process is simple and direct, and as volumetric methods have not proved very satisfactory, to effect improvement one naturally looks for another oxide that is itself infusible and whose phosphate is also infusible. The following experiments show that heavy magnesium oxide has proved to be a very satisfactory substance to use for the assay of phosphoric acid:

In the case of a dilute acid the acid is added to a weighed quantity of recently ignited heavy magnesium oxide in a crucible and evaporated to dryness on a water-bath. The residue is then ignited over a Bunsen burner; the increase in weight gives the amount of phosphoric anhydride in the amount of phosphoric acid used.

For a concentrated acid it is preferable to use the acid without dilution in order to save time. A weighed quantity of acid is put into a crucible, and in adding an approximately equal weight of recently ignited magnesium oxide the powder must be added in very small quantities at first, or some is likely to be carried away by the steam formed during the action. The crucible is heated cautiously over a Bunsen burner, and finally ignited strongly, cooled, and weighed. The violence of the action also prevents the weight of added oxide being obtained by direct weighing, and the amount used must be found by weighing a second crucible, containing the oxide, before and after transferring the required quantity to the crucible containing the acid. The oxide must be added to the acid, otherwise, unless an unwieldy excess of oxide is used, it is difficult to ensure a thorough mixing, and acid is lost by volatilisation. The amount of magnesium oxide used is considerably in excess of the amount required by theory to prevent loss of acid by volatilisation. The crucibles used in this process are easily cleaned.

The following results demonstrate the reliability of the method. The amounts of phosphoric acid in three specimens were determined both by precipitation with magnesia mixture and by the method suggested in this paper:

Experiments using Magnesia Mixture.

Acid Used	Amount Taken	Weight of $Mg_2P_2O_7$	H_3PO_4 Indicated	Percentage of H_3PO_4
Dilute solution ...	10 c.c.	0.398	0.3505	3.5 grams in 100 c.c.
Phosphoric acid sp. gr. 1.5; B.P. ...	0.854	0.644	0.5671	66.4
Phosphoric acid sp. gr. 1.75 ...	0.685	0.707	0.6226	90.9

Experiments using Magnesium Oxide.

Acid Used	Amount Taken	Weight of P_2O_5	H_3PO_4 Indicated	Percentage of H_3PO_4
Dilute solution ...	10 c.c.	0.253	0.3491	3.49 grams in 100 c.c.
Phosphoric acid sp. gr. 1.5; B.P. ...	0.474	0.228	0.3146	66.37
Phosphoric acid sp. gr. 1.75 ...	0.418	0.275	0.3795	90.8

Ammonium Phosphate.

The fact that ammonia is evolved when ammonium phosphate is heated, leaving a residue of phosphoric acid, suggests the applicability of the above method to ammonium phosphate. The process is entirely satisfactory, and can be carried out very rapidly as follows:

Weigh into a crucible about 0.4 to 0.5 gram of powdered ammonium phosphate, and add about an equal weight of recently ignited magnesium oxide; mix gently with a platinum wire, and see that the phosphate is well covered by the oxide. Heat the mixture cautiously until there is no further visible action, and finally ignite strongly over a Bunsen burner, cool, and weigh. The increase in weight of the crucible and magnesium oxide gives the amount of phosphoric anhydride present in the ammonium phosphate taken.

Four commercial specimens were examined, and the results obtained are tabulated below.

Experiments using Magnesia Mixture.

Specimen	Quantity Taken	Weight of $Mg_2P_2O_7$	H_3PO_4 Indicated	Percentage of H_3PO_4	Percentage of $(NH_4)_2HPO_4$
A	0.4767	0.421	0.3709	77.8	104.8
B	(1) 0.4391	0.396	0.3487	79.41	106.9
	(2) 0.413	0.372	0.3276	79.3	106.8

Experiments made with Magnesium Oxide.

Specimen	Quantity Taken	Weight of P_2O_5	H_3PO_4 Indicated	Percentage of H_3PO_4	Percentage of $(NH_4)_2HPO_4$
A	1) 0.425	0.238	0.3285	77.3	104.2
	(2) 0.482	0.271	0.3740	77.6	104.55
	(3) 0.447	0.251	0.3464	77.5	104.4
B	(1) 0.395	0.227	0.3133	79.3	106.8
	(2) 0.4391	0.252	0.3478	79.2	106.7
C	0.415	0.239	0.3299	79.5	107.1
D	0.388	0.220	0.3036	78.25	105.4

The above results show that the method is reliable, and they also emphasise the fact noted by Greenish and Smith ("P.J.," (4) 12, 774), and Squire and Caines (*C. & D.*, 1902, II., 944), that commercial ammonium phosphate is not represented by the formula $(NH_4)_2HPO_4$, and does not correspond to the official requirements. Further, Squire and Caines showed, and Greenish and Smith confirmed, that it is quite a simple matter to prepare ammonium phosphate of the Pharmacopœia standard. A specimen was accordingly prepared in order to find a simple test that would exclude the unsatisfactory commercial article. All the commercial samples reddened blue litmus when a small crystal was placed on the paper and a drop of water added, and all of them also gave under similar conditions a blue colour with red litmus-paper; the specimen made in the laboratory (which showed a purity of 99.65 per cent. of di-ammonium

hydrogen phosphate) gave a blue colour with red litmus and did not redden blue litmus-paper. A similar result was obtained by Squire and Caines. The author now suggested that the Pharmacopœia monograph should say that "ammonium phosphate does not redden blue litmus-paper," as this would exclude most of the faulty commercial samples.

DISCUSSION.

Mr. TYRER said it was a useful and practical paper. The lead oxide method had been discarded in his laboratory long ago, because it was not reliable, and because of its action on the crucibles. Many of the B.P. tests need correcting; they are often fallacious or lax. He would rather have stringency than laxity; manufacturers then had some chance of being rewarded according to their merits. He would like to know what was meant by commercial ammonium phosphate, as purchasers must pay for what they ask for. There is no difficulty in obtaining an article, but the cost must be considered.

Mr. WHITE, after asking for further particulars, said the question recently arose as to what is acid sodium phosphate which physicians are now ordering. It is NaH_2PO_4 , but to get that salt the manufacturer must crystallise from an acid bath and keep it at a certain acidity to get the proper salt.

Mr. HARRISON said the test rests on the assumption that there is nothing present capable of being fixed. It would make the test very cumbersome if one had to make separate allowances for calcium, for instance. Mr. Tingle recently wrote to him that in estimating phosphates he adds to an acid solution excess of silver nitrate, then sufficient caustic alkali to make the solution alkaline, and then titrates the silver with thiosulphate, in this way being able to conduct the assay in half an hour.

Mr. ALCOCK said the test could only be satisfactory after a qualitative test had been made that the precipitate is phosphoric acid. He had found a sample which gave a copious precipitate and contained much aluminium phosphate, which came from the earthenware vessels in which the solution had been evaporated. He thought the B.P. tests should be more precise; in Fenton's test, for example, some explanation of the uses is required.

Mr. WALLIS replied, agreeing that a qualitative test must be made first.

An Insect-pest in Belladonna.

By P. E. F. PERRÉDÈS.

SPECIMENS of an insect which made their appearance in the belladonna-plants on Messrs. W. Ransom & Son's farm near Hitchin, Herts, for the past few years, being especially prevalent in dry seasons, when considerable damage is caused to the plants, were identified by the Board of Agriculture and Fisheries, to whom they were submitted in May, as *Epitrix atropæ*, Foudras. The attacks of the insect have been limited during the present season to a field of belladonna-plants surrounded by trees.

Epitrix atropæ, Foudras (fig. 1), is a small beetle belonging to the tribe *Halitæ* (flea-beetles) of the series *Phytophaga* (plant-devourers). The members of the tribe are particularly distinguished by the thickened thighs of the hind legs, which are formed for leaping, thus giving them the name of "flea-beetles." Canon Fowler in "The Coleoptera of the British Islands," states that of the fifty-two species ascribed to the genus *Epitrix*, only three are European, and two of these—*E. pubescens*, Koch, and *E. atropæ*, Foudras—are British. The former, which is found on *Solanum Dulcamara*, L., ranges from 1.5 to 1.75 mm. in length, and its upper surface is uniformly black in colour. *E. atropæ*, which has also been regarded as a variety of the preceding, is chiefly distinguished from the latter by its smaller size (length 1.3 to 1.5 mm.) and by the presence of reddish-yellow patches on the wing-cases. The patches are very variable, for they may be almost absent, or so much extended as to cover nearly the whole wing-case (compare figures in fig. 1). *E. atropæ* does not appear hitherto to have been specifically referred to as a pest in cultivated belladonna-plants, although the small beetle of the turnip-flea family referred to by Mr. E. M. Holmes, in his museum report for 1907-10, as riddling belladonna-plants, is probably the same. The larval and pupal stages of the genus *Epitrix* do not appear to have been studied, but would seem to be of the same type as those of *Halitæ oleracea*, Linné (the cabbage-flea), which beetle deposits its eggs on the surface of the leaf, the young larvæ feeding and changing

into pupæ outside the leaves. The larvæ do not form galleries in the leaves like those of the turnip-fly (*Phyllotreta nemorum*, Linné), the other type found in the *Haltica*. When the plants do not grow vigorously in their early stages, they are unable to keep pace with the attacks of the beetles, and an extensive destruction

8. Pushing among the plants a light framework on wheels carrying boards of which the under surfaces have been freshly tarred to catch the leaping insects as the framework is wheeled along.

The last method is the one particularly recommended by the Board of Agriculture and Fisheries. The chief

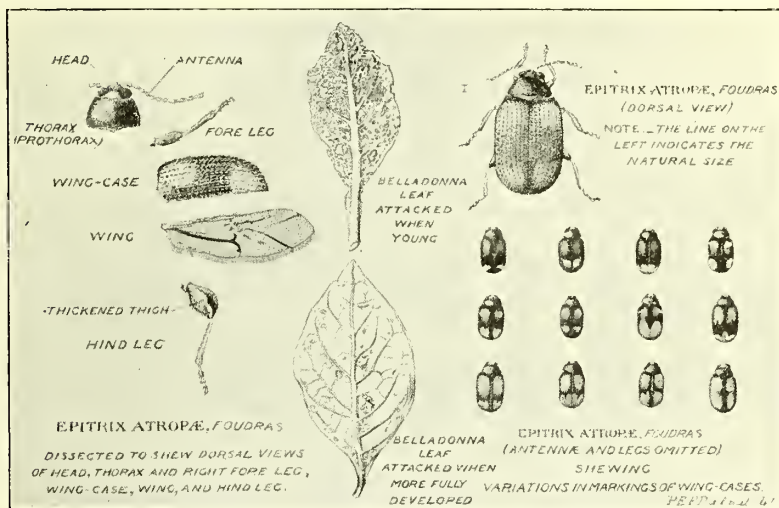


FIG. 1.

of the parenchymatous tissue of the leaves results; but if the plant is robust it will, to a very considerable extent, outgrow the damage done to it, although bearing evidences of the beetle attacks (compare young and older leaf shown in fig. 1 and also fig. 2). Otherwise the ravages caused by

features to be noted in identifying the insect may be summarised as follows:

Feet apparently four-jointed; thighs of hind legs much thickened; wing-cases punctured in rows; antennæ eleven-jointed; wing-cases set with distinct rows of hairs; thighs dark in colour; wing-cases black, but with reddish-yellow spots; small size.

DISCUSSION.

Mr. DEANE said the same pest killed a crop at Long Melford last year. He had found that paraffin and soap emulsion kills the insects, but that Paris green has no effect.

Mr. PERRÉDÈS, replying to Mr. Deane, said the question of the distribution of the insect was very interesting. They appeared to have an almost miraculous power to increase. One of them might in one year be regarded as quite a curiosity. Some conditions of weather or soil might enable the insects to have several generations in one season, and to multiply at such a rate that what in one year might be treated as a curiosity or rarity might become a pest next. He had seen that with caterpillars that infested the hawthorn at his own home. The plant one season was so robust and vigorous that it appeared to be immune against the attacks of the pest, and yet when a dry season came, the shrub the following year might be stripped of every leaf. The explanation of the spread of the insects, then, lay in their wonderful capacity to reproduce themselves under favourable conditions. Mr. Deane's observations on the matter were very welcome, as it had been suggested that the insects did not like turnips at all.

Mr. MARTIN remarked that Mr. Deane was the grandson of one of the first Presidents of the Conference. It was the sincere hope of those present that that would not be the last occasion on which they would hear Mr. Deane. It was pleasing to note that he kept up his father's interest in entomology.

Asafetida.

By JOHN C. UMNEY, F.C.S., and SIDNEY W. BUNKER.

THIS communication was a reply to Question 4 in the B.P.C. Research List, "What is the percentage of essential oil in the different varieties of asafetida?" Shortly after the publication of the British Pharmacopœia of 1898 there was much controversy as to the possibility or otherwise of obtaining in commerce asafetida answering the official requirements, and at that time Mr. J. C. Umney (*C. & D.*, 1899, II., 983) showed by figures the characters of the drug obtain-



FIG. 2.—BELLADONNA-PLANTS.

No. 1 is a plant, 23 in. high, which was badly attacked by the insect; No. 2 (34 in. high) has largely outgrown the attacks.

the insect in belladonna seem to be identical with those of the turnip-fly in turnips, and the remedial measures which have been found effective in the latter would also apply in the former.

The following remedies, suggested for the eradication of turnip-fly, have accordingly been selected as being likewise applicable to *E. atropæ*:

1. Good tilth. "Good results have frequently attended working the land in autumn; and, in spring, sowing on a 'stale' furrow."
2. "Judicious manuring to force growth."
3. Rolling the drills after sowing the seed.
4. Using fresh seed and sowing thickly.
5. Dusting with lime, soot, road-dust, and especially gyp lime.
6. Spraying with soap and paraffin emulsion.
7. Watering with pure water or liquid manure early in the morning or late at night.

able in commerce (including highest quality and highest priced asafetida and other commercial grades) as follows :

	Per cent.
Ash of picked tears	3½ to 6
Solubility of tears in 90-per-cent. alcohol ...	50 to 70
Ash of tears, finest, as imported	14 to 25
Solubility of tears in 90-per-cent. alcohol ...	40 to 50
Ash of fair mass	35 to 60
Solubility of drug in 90-per-cent. alcohol ...	20 to 40

The same difficulty arose in the United States following the publication of the United States Pharmacopœia of 1904, the standard required being 50 per cent. solubility in 90-per-cent. alcohol and 10 per cent. ash. The matter was fully reported upon by Lloyd, who stated that no asafetida was obtainable in the United States even approximating to the requirements of their Pharmacopœia, his figures being as under :

Ash, 16 to 20 per cent. of fair commercial asafetida.
Ash, 1.78 to 2.55 in selected tears, yielding 76 per cent. of alcohol.
Acid number, 61.9 to 68.8 for dry tears.
Acid number, 37.7 to 40.4 for mass.

The recognition of the U.S.P. as the standard under the U.S. Federal Food and Drugs Act, 1906, led to a modification of the pharmacopœial requirements, which were subsequently altered to allow the drug having 15 per cent. of ash instead of 10 per cent. During recent years the majority of workers have recommended asafetida to be purified by separation of the soluble portions of asafetida from impurities by an approved solvent. This, however, is not easy or satisfactory, as a portion of the volatile oil is lost in evaporating the solvent. This difficulty brought the authors to questions which were the starting point of their inquiry :

1. What is the percentage of volatile oil in asafetida?
2. Is not the point of most serious importance in view of the therapeutic value of the drug being ascribed to the oil?
3. Is the oil of the tears of asafetida identical with that contained in the mass asafetida?

In reply to these questions the authors quoted therapeutic authorities such as Mitchell Bruce, Hale White, Whitla, and Lauder Brunton, who agree that the volatile oil is the valuable constituent of asafetida. The two varieties of asafetida in commerce appear to be different ; but Dieterich attributes to Holmes the statement that they are yielded by one source, *Ferula Narthex*. As to this, Mr. Holmes has supplied the authors with a note on the recent botanical history, showing the inconclusiveness of the origin of the drug. Dieterich states that the variety "in massa" is preferable to the other—namely, tears—for pharmaceutical purposes, on account of its higher percentage of ethereal oil.

The following show the characters of the typical commercial samples upon which the authors have experimented :

Tears.—Ash, 17.6 per cent.; soluble in 90-per-cent. alcohol, 44.8 per cent. (excluding volatile matter); acid number, 100.3; ester number, 119.7; and saponification number, 220.0; soluble in 70-per-cent. alcohol, 46.4 per cent. (excluding volatile matter).

Mass.—Ash, 45.7 per cent.; soluble in 90-per-cent. alcohol, 24.4 per cent. (excluding volatile matter); acid number, 75.0; ester number, 120.0; and saponification number, 195.0; soluble in 70-per-cent. alcohol, 16.55 per cent. (excluding volatile matter).

The acid, ester, and saponification numbers were obtained by Dieterich's method. The numbers differ considerably from those obtained by Lloyd ("Pharm. Review," xiv., 54), but agree more nearly with the values given by Squire for fine selected tears—viz. : Acid number, 131.9; ester number, 119.3; and saponification number, 251.3.

The determination of the percentage of essential oil is not an easy matter, and the authors had to depend upon an indirect method. One, designed by themselves, consisted in treating 10 grams of the drug in an Erlenmeyer flask with 50 c.c. of ether (s.g. 0.720) for two days, then with another 50 c.c. for twenty-four hours, washing the residue with 30 c.c. of ether, and distilling the mixed solutions at reduced pressure (less than 5 c.m. of mercury). Evapora-

tion of the ether reduces the temperature of the liquid below zero, so that little oil is lost. The flask with residue of oil and resin was weighed, then the oil evaporated at 130°-140° C., and the loss determined. Asafetida in *mass* gave 64.05 per cent. of ether-soluble matter, which lost 15.28 per cent. at 130°-140° C. *Tears* gave 60.75 per cent. of ether-soluble matter, which lost 15.69 per cent. at 130°-140° C., and *inferior mass* gave 34.66 and 11.55 per cent. The authors also used Cripps and Brown's method for determination of essential oil and moisture in spices, etc., as described in the "Analyst," 1909, 34, pp. 519-523, and by it found that mass asafetida showed 16.22 per cent. of total volatile matter in twenty-seven hours, and tears 13.85 per cent. In the experiments it was observed that the tears contain more oxidisable substances than the mass. The total volatile matter was also determined by heating the drug in a U-tube to 130°-140° C. for three hours in a current of dry air. One limb of the U-tube was connected to a calcium-chloride tube and sulphuric-acid bottles, and the other to a vacuum-pump. By this *mass asafetida* showed 17.93 per cent. of volatile matter, including 15.90 per cent. of volatile oil (by difference). *Tears* yielded 17.4 per cent. of volatile matter, including 14.56 per cent. of volatile oil (by difference).

The total volatile matter comes out higher by this method than when dried in the oven, because the effect due to oxidation is greatly diminished. Oxidation was eliminated by drying in a current of nitrogen, and the results were :

18.20 per cent. volatile matter in the mass, and 17.66 per cent. in the tears, or about 0.3 higher. From these experiments the authors conclude that :

1. The percentage of volatile oil in the "tears" of asafetida may equal that in the "mass" variety, or even be slightly higher in good specimens, but in general it is slightly lower.
2. In both varieties the actual percentage of volatile oil present is 12 to 16 per cent.

The "tears" themselves, however, and the tinctures prepared from them are far more pungent in their odour than the "mass" and its tincture, despite the approximate equality in the percentage of oil present. Notwithstanding the greater proportion of oil in the mass it appeared that its composition might be different, so the authors further investigated the matter by making tinctures with 70 per cent. alcohol, containing approximately the same percentage of volatile oil, similar tinctures being prepared from drugs dried in the oven. Both were treated with 5-per-cent. silver-nitrate solution; the tinctures from undried drug gave black precipitates, and the sides of the tube were covered with film of silver sulphide (less in one case), while one of the tinctures from dried drug yielded a slight black precipitate without a film, and the other no precipitate or film. Thus, a much higher proportion of sulphur was indicated in the oil of the tears than in the oil of the mass, and by saponification of the sulphur it was found that 100 c.c. of mass tincture yielded 0.063 gram of S and the same of tears tincture 0.331 gram of S, so that sulphur in oil from mass equals 2.06 per cent. and in oil from tears 10.44 per cent. In conclusion the authors said :

"The oil of the tears differs materially from that of the mass. If the therapeutic action of the drug is almost entirely due to the subjective effect produced in virtue of the abominable taste and smell, as most authorities aver, we do not agree with Dieterich that the mass is preferable to the tears for pharmaceutical purposes. If, however, its chief effect is ascribed to the stimulant action on the walls of the stomach and intestines, like other volatile oils of far less pungent nature, it is possible that the use of the mass may be as advisable as, or even better than, the use of the tears in pharmacy. We think that systematic experiments should be conducted with the oils, or for convenience with standard tinctures prepared with 90-per-cent. alcohol. We may say that we fail to see the advisability of stipulating that asafetida be tested with 90-per-cent. alcohol and then preparing the tincture with the use of 70-per-cent. alcohol. Upon the results of such therapeutic experiments should be based a revised monograph for asafetida for the British Pharmacopœia. It is, of course, imperative that asafetida for strictly trade-purposes must have a malodorous path of its own. In addition to this, the botanical source of the asafetida of commerce—viz., tears and mass—stands in need of further inquiry, and the question should be reinstated in the Research List."

DISCUSSION.

The PRESIDENT said there was probably no drug on the London market which varies so much as asafetida.

Mr. NAYLOR said he had never distilled the oil, but would like to know whether the odour of the residue bore any relation to the oil.

Mr. HENDERSON said that oil of asafetida is not an official article. He questioned how doctors could arrive at the conclusion that the medicinal activity depends on the essential oil. He noticed that in one of the pharmacopœias of a London hospital, "compiled by the staff," it is stated that cassia oil is "distilled from the pulp of *cassia fistula*."

Mr. ALCOCK spoke of a method of detecting small quantities of essential oil in turmeric and saffron by noting the difference after heating on a water-bath.

Mr. GADD asked whether asafetida is really much used in medicine.

Mr. FENNEMORE said large quantities are used in the hospital with which he is connected. The tincture is employed in hysterical conditions, and the nastier it is the better.

Mr. CRIPPS thought three hours rather a long time for getting off the oil. Did Mr. Umney try mixing sand with the asafetida?

Mr. TAYLOR (Derby), Mr. THOMAS (Cheltenham), Mr. WHIGHAM (London), Mr. PECK (Cambridge), Mr. CLAGUE (Newcastle-on-Tyne), and Mr. DRUCE (Oxford) all stated that within their knowledge large amounts of asafetida are employed in medicine.

Mr. UMNEY said that of the asafetida which comes into the London markets, at least nineteen-twentieths is mass. It goes to the Continent for culinary purposes. He could not quite understand why those on the Continent should prefer mass asafetida, but no doubt it is due to the fact that it contains far less of the sulphur compound than the tears which are wanted in pharmacy. There is no doubt that the sulphides did have a medicinal effect, apart from their filthiness.

Liquid Extract of Ergot.

Note on an Improved Method of Preparation, by J. H. FRANKLIN, Ph.C., with Results of Physiological Tests made by G. S. HAYNES, M.D.

The first-named author (who is in the laboratories of Messrs. James Woolley, Sons & Co., Ltd., Manchester), having noticed the ease with which extraction of ergot takes place when a semi-alcoholic menstruum is used in place of water, and clinical results with aqueous and semi-alcoholic preparations have confirmed the reasoning that a superior product is obtained by the use of a percentage of alcohol in the menstruum, and have occasionally condemned liquid extract made by the Pharmacopœial method. Extraction of the drug is easy when a diluted alcoholic menstruum is employed, and the liquid extract is richer in colour, contains a higher percentage of total solid matter, and preserves the aroma natural to the drug. When the proportion of 50 per cent. of alcohol in the menstruum is exceeded, the total solids and colouring matter begin to decrease, without increase of potency, and precipitation also occurs on diluting with water or saline solution, which is an objection. Two samples of liquid extract were prepared, one by the official process, and the other with an alcoholic menstruum, made from the same lot of Spanish ergot of rye. The samples were made in duplicate on three separate occasions, and gave the following results:

Date	Method	Blood-pressure Test
March 1909 ...	B.P.	1 c.c. of a 1 in 3 solution causes a rise of blood pressure of 20 mm. of mercury.
" "	Semi alcoholic menstruum	Do., rise in blood pressure 40 mm. of mercury.
May 1909 ...	B.P.	Practically inactive.
" "	Semi-alcoholic menstruum	A good active sample, 2 c.c. of 1 in 3 solution raises the blood pressure 54 mm. of mercury.
December 1909	B.P.	Inferior. Gives hardly any response to the blood pressure test.
" "	Semi-alcoholic menstruum	Active, and reaches our standard. Rise in blood pressure 20 mm. of mercury.

These results show the immense gain in potency of the alcoholic-menstruum preparation. The second-named author (Dr. Haynes, of the Pharmacological Laboratory, Cambridge) undertook to examine a more extended series of liquid extracts, and these were made in January 1910 from a sound sample of Spanish ergot of rye, which was

thoroughly mixed after grinding to ensure uniformity. The results were as follows:—

No.	Method	Total Solids per 100 c.c.	Sp.Gr.	Alcohol per cent. by Volume	Blood-pressure Test
1	B.P.	14.62	1.027	29.7	1 c.c. of a 1 in 3 solution injected. Rise in blood pressure 22 mm. of mercury.
2	Alcohol 20%	18.22	1.065	15.5	Do. Rise in blood pressure 30 mm. of mercury.
3	35%	15.8	1.036	27.6	Do. Rise in blood pressure 32 mm. of mercury.
4	50%	15.92	1.008	42.4	Not any increase in potency.
5	70%	12.72	0.941	62.95	
6	90%	6.42	0.860	84.0	

Dr. Haynes reported: "My experiments confirm your observations that an alcoholic menstruum gives a better preparation as regards the physiological activity." At his request, two further samples of the B.P. liquid extract were made in April 1910 from different consignments of ergot, and a corresponding preparation of each made with a 25-per-cent. alcoholic menstruum:—

No.	Method	Total Solid per 100 c.c.	Sp. Gr.	Alcohol per cent. by Volume	Blood pressure Test
7	B.P.	15.2	1.022	31.0	1 c.c. of a 1 in 3 solution injected. Rise in blood pressure 14 mm. of mercury.
8	25 % Alcohol	17.4	1.000	19.9	Do. Rise in blood pressure 28 mm. of mercury.
9	B.P.	14.0	1.026	31.5	Do. Rise in blood pressure 19 mm. of mercury.
10	25% Alcohol	14.9	1.050	21.0	Do. Rise in blood pressure 19 mm. of mercury.

Nos. 7 and 8 were from Spanish ergot; Nos. 9 and 10 from Russian. Dr. Haynes, in his final report, said:

"You will notice that the result of preparing an extract with a semi-alcoholic menstruum is to increase the activity, as compared with a watery extract; this result, however, I could not obtain with the samples made from Russian ergot. I am quite convinced that a more reliable and more active extract can be made from ergot by using a semi-alcoholic menstruum (e.g., 25 per cent.) than by closely following the B.P. process."

None of the samples prepared with a semi-alcoholic menstruum fall below the standard set by pharmacologists, and in this respect Dr. Goodall found that as high a proportion as 76 per cent. of the commercial samples of liquid extract of ergot which he examined failed to cause a satisfactory rise of blood-pressure.¹ Although experiments 9 and 10, with Russian ergot, do not indicate any great superiority in the alcoholic process, the evidence of eight other experiments is uniformly to the disadvantage of the cold-water process, and therefore it seems safe to assume (after the numerous failures to prepare a satisfactory aqueous liquid extract of ergot) that the introduction of a semi-alcoholic menstruum of about 35 per cent. strength will give a product of much greater potency, and at the same time remove the suspicion that has undoubtedly fallen upon the official liquid extract of ergot. A suitable process would be to exhaust ergot in coarse powder with 35-per-cent. alcohol, as in the formula for liquid extract of hamamelis in the British Pharmacopœia, when the product will be sufficiently strong in alcohol to keep well.

DISCUSSION.

The PRESIDENT congratulated Mr. Franklin on his paper. Its net result, he said, would have been impossible if the pharmacist and medical man had alone dealt with the subject. Ergot is a most important preparation, and it was essential that, if possible, it should be uniform in quality.

Mr. CRIPPS stated that his experience in the preparation of ergot liquor had been on lines exactly similar to those de-

¹ *Edinburgh Medical Journal*, July 1909.

scribed by Mr. Franklin. Some years ago he made experiments, and the results of these were embodied in a paper published in 1895. At that time he submitted several samples to medical friends of his own. Although they did not go into the matter in the same scientific way as Dr. Haynes, by whom Mr. Franklin had been helped, yet their statements to him were strongly in favour of a preparation made by a weak alcoholic menstruum.

Mr. R. R. BENNETT thought that the more they adhered to the aqueous preparation, the more fermentation they would get. The less septic the conditions were, the more active would be their preparations.

Mr. NAYLOR said it would be well known to the elderly pharmacists present—and he dared say particularly so to his friend Mr. Martin—(laughter)—that Dr. Squibb, of New York, rather more than thirty years ago, conducted a series of investigations upon ergot, and came to the same conclusion as Mr. Franklin. This result was not arrived at by the pharmacological method, but through a long series of carefully conducted clinical observations. He believed Mr. Martin would be able to confirm what he stated. In fact, Mr. Martin knew Dr. Squibb personally. At any rate, those observations were on record, and it would be within the recollection of many present that Dr. Squibb's preparation was at one time very much in vogue. (A voice: "But there was acetic acid in that.")

Mr. MARTIN said he did not object to being called an elderly man, because the experience of an elderly man was sometimes useful. (Laughter.) He had a very intimate acquaintance with Dr. Squibb, and as a result of it they adopted a modified formula based upon Dr. Squibb's experiments. Although three years ago they started the physiological laboratory, they had not yet been able to assure themselves that the physiological test was of any assistance. They had for over thirty years distributed a very large quantity of the preparation in the aggregate, and in that time he had not had one single complaint that it was clinically inactive. It was a matter of regret to him that Dr. Haynes was unable to be present, but he hoped that at some future time he would be able to contribute a paper on the physiological testing. He did not feel that the physiological testing had helped them much—at least, they had not yet buried their formula.

Mr. HENDERSON asked if Mr. Franklin advocated the adoption of the Russian ergot to the entire exclusion of the Spanish?

Mr. RUTHERFORD HILL inquired if the finished product contained the same percentage of alcohol as the present liquid extract of the Pharmacopœia, or whether it was a 25-per-cent. product at the finish? That, he pointed out, would influence the blood pressure. In the experiments made by Dr. Goodall, 76 per cent. of the samples failed to respond to the blood-pressure test. He, however, submitted them to another test—viz. their action on the uterine muscle—and found that in many cases the extract, which would have been condemned on the blood-pressure test, was quite effective on the uterine muscle for which ergot was chiefly used. It was therefore evident that something more than the blood-pressure test was required. It was also brought out in Dr. Goodall's work that there appeared to be present in ergot depressor elements. There are still in the country, Mr. Hill added, some old-fashioned practitioners who decline to use the fluid extract, and insist on having fresh ergot infusion.

Mr. FINNEMORE held that the chemistry of ergot is by no means settled. With regard to the ergotoxin referred to by Mr. Bennett, it had been tried hypodermically as a substance to raise the blood-pressure, but he was assured by the people in the hospital that not the slightest result had come from the solutions of ergotoxin. At present pituitrin is used.

Mr. FRANKLIN, in reply, assented to Mr. Martin's remarks about Dr. Squibb's method, and, having referred to Mr. Hill's statement, said that personally he did not lay great stress on one experiment on Russian ergot, and he intended making a more extended examination comparing the two ergots.

At 1.24 the PRESIDENT intimated that Mr. Finnemore had agreed to take as read his paper on:

Rhizome of *Cimicifuga racemosa*.

By HORACE FINNEMORE, B.Sc. (Lond.), F.I.C.

THE dried rhizome and roots of *Cimicifuga racemosa*, Elliott, are official in both the British Pharmacopœia and the United States Pharmacopœia. The results of the many investigations of this drug have been somewhat contradictory. Conard (1871) announced the isolation of an ill-defined crystalline substance of a light-yellow colour, but did not give an analysis. Falck (1884) confirmed this, but differed from Conard in believing it to be an alkaloid. Several workers have since recorded their inability to

obtain this or any other definite body. Most of the current works on pharmacognosy mention "racemosin" as the chief constituent of this drug, and a small specimen supplied by Mr. E. M. Holmes, of the Pharmaceutical Society's museum, was golden-yellow in colour, brittle, and resinous. It appears to correspond to that part of the extract of the drug which is soluble in chloroform.

Extraction.—Forty kilos. of the coarsely powdered drug was completely extracted with hot alcohol by continuous percolation in a large "Soxhlet" apparatus, and the greater part of the alcohol recovered. The resulting extract yielded nothing definite to steam distillation. The dark-brown extract was next subjected to treatment, as hereafter described, with the following solvents: Water, petroleum ether (b.p. 40°-60°), ether, chloroform, ethyl acetate, and alcohol.

From the various extracts the author isolated or obtained evidence of the presence of the following bodies:

Three grams of a crystalline body, m.p. 228° C., and formula $C_{10}H_{16}(COOH)OCH_3$, identical with isoferulic (hesperitic) acid.

Fifteen grams of a semi-solid green crystalline substance which would not crystallise.

Twenty-one grams of a syrupy material, giving a green colour with ferric chloride.

A minute quantity of salicylic acid.

A syrup which yielded osazone, m.p. 209° C.

Sixteen grams of palmitic acid, besides some in other fractions.

A member of the phytosterol series.

Twenty centigrams of a white solid, m.p. 202° C., approximates to $C_{15}H_{25}O_2.H_2O$.

A golden-coloured resin, 250 grams.

Fifty grams of white powder which crystallised from alcohol in well-defined flat plates softens at 263° C., and melts at about 244° C.; approximates to $C_{15}H_{25}O_2$. Apparently an alcohol.

The ethyl acetate and alcoholic extractives were dark-brown and amounted to 130 and 162 grams respectively. Nothing definite was obtained from either of them.

Test for alkaloids showed evidence of a very small amount.

It was then proposed that the Conference should adjourn until Thursday morning, when the following papers were read:

Extemporaneous Preparation of Chloroform of Belladonna.

By ERNEST QUANT, F.C.S.

THE author referred to Mr. R. Wright's paper on the preparation and determination of chloroform of belladonna at the Manchester Conference in 1907, and recalled the suggestion thrown out in the discussion that the liquid extract might be employed for making chloroform of belladonna. An answer in the negative was given; but the present author was convinced, and undertook some experiments to settle the matter, the result being the following formula:

Liquid extract of belladonna	... 1 fl. oz.
Heavy calcined magnesia	... 4 grains
Dried sodium sulphate	... 4 dr.
Chloroform sufficient to produce	2 fl. oz.

Into a dry bottle place the liquid extract with $1\frac{1}{2}$ fl. oz. of chloroform and the magnesia, shake; then add 3 dr. of the dried sodium sulphate, agitate frequently during ten minutes, filter, to the filtrate add 1 dr. of dried sodium sulphate, agitate as before, filter, and add sufficient chloroform to produce 2 fl. oz.

In practice 1 fl. oz. of liquid extract and $1\frac{1}{2}$ fl. oz. of chloroform produce approximately $1\frac{3}{4}$ fl. oz.; also a brighter preparation is yielded by adding the exsiccated salt in two portions. The alkaloidal determination of the product was performed according to the B.P. without difficulty or any modification, excepting that (as already the alkaloids were in chloroform) the author commenced by taking 10 c.c. and adding 50 c.c. of water directly to it. The amount of alkaloids obtained was 0.34 gram in 100 c.c.

The process is so simple that it can be extemporaneously performed at the dispensing-counter.

The Filling of Hypodermic Ampoules.

By THOMAS STEPHENSON, Ph.C., F.R.S.E., F.C.S.

IN this note the author stated that the preparation of ampoules of hypodermic solutions at the dispensing-counter

is simplicity itself. He referred to the paper by Pégurier (*C. & D.*, 1909, I., 170), and emphasised the importance of cleanliness and sterilisation. In preparing ampoules to prescription an ordinary hypodermic syringe is all that is necessary. The syringe should first be sterilised in the usual way. Then an ampoule is taken and the pointed end removed, as near the point as possible, by snipping sharply with scissors (holding the point downwards), or by scratching with a file and breaking off. The necessary quantity of solution, plus one or two minims to allow for loss in removal, is then drawn into the syringe, the needle inserted at the open end of the ampoule and pushed well down to prevent the liquid collecting in the neck, and the solution injected into the bulb. A little extra solution is always desirable, for the reason stated; indeed there is no objection to a *slight* excess over the required dose, as the physician will withdraw the required quantity into a measured syringe—a much easier matter when there is a slight excess of solution. An ordinary pessary mould forms a useful stand for the ampoules during the process of filling, when these are of the tubular shape. The ampoule has now to be sealed. This is done by holding for a moment or two in a Bunsen flame. If held too long in the flame, the liquid is liable to become volatilised, with the result that a bubble is blown in the end, which will not be air-tight. With a little care, however, the sealing can be effected rapidly and securely.

When the ampoules contain a solution that is not injured by heat, they should be finally sterilised after sealing. This is accomplished by placing in a beaker of water and heating this in a pan of boiling water for an hour. Should a higher temperature than that of boiling water be required, suitable means can easily be adopted. The water in the beaker should be coloured with aniline blue. Should any ampoule be imperfectly sealed, the blue colour will then penetrate into the interior and colour the solution. For this reason, and to allow for accidental breakage during the final sterilisation, it is well to prepare a few ampoules more than are actually required. An ampoule should never be filled more than two-thirds full, in order to allow some elasticity for the contents during sterilisation.

The Flowers of *Bassia latifolia*.

By REGINALD R. BENNETT, B.Sc., A.I.C., Ph.C., and
J. D. E. ANKLESARIA, Ph.C.

Bassia latifolia, Roxburgh (N.O. *Sapotaceae*), is a large tree indigenous to the Central Provinces of India. In the vernacular it is known as the mowra-tree and is valued principally for its flowers, which are used as an article of food, and also for the manufacture of spirit. During February and March the trees shed their leaves, and in March and April cream-coloured flowers, which cluster in dense fascicles near the ends of the branches, appear. As soon as the flowers begin to fade the fleshy corollas fall to the ground, principally during the night time, and, the undergrowth having been previously cleared away, the fallen corollas are swept up in the early morning and dried in the sun. Large quantities of a potable spirit are distilled from mowra-flowers in many parts of India, but the spirit is highly flavoured with volatile oil from the flowers, and this renders it unfit for pharmaceutical purposes. A method for preparing odourless alcohol from mowra-flowers has been patented, but a heavy duty was imposed by the Indian Government, and the manufacture was eventually stopped (Sir George Watt's "Dictionary of the Economic Products of India," vol. i., p. 413). In 1886, A. H. Church ("Nature," vol. xxxiii., pp. 343, 344) found the flowers of *Bassia latifolia* to contain 3.2 per cent. of cane sugar and 52.6 per cent. of invert sugar; but the percentage of sugar appears to vary considerably, the flowers grown in the hilly districts of India containing more than those grown at lower levels. From 500 grams of the air-dried flowers the authors obtained by exhaustion with alcohol 390 grams of very thick dark-brown, uncrystallisable syrup. By steam-distillation and ether-extraction of the distillate this syrup yielded a small quantity of yellowish oil having the characteristic odour of mowra spirit. The residue in the flask yielded with phenylhydrazine and acetic acid, an osazone, m.p. 208° C.

The flowers were found to contain 63 per cent. of sugar, 49.8 per cent. being invert sugar and 13.4 per cent. cane sugar. The average amount of water in the material was 18 per cent. The ash amounted to 2.6 per cent. (consisting to a large extent of sand), and proteins amounted to only 0.7 per cent. An aqueous infusion of the flowers fermented with yeast yielded on distillation a spirit possessing a strong odour, from which it could not be separated by repeated fractionation, but a perfectly pure spirit was prepared by digesting the strong distillate with solid potash and redistilling—a method which was possibly the basis of the patented process.

Thursday.

The concluding proceedings then included the following items:

Presentation to the Cambridge Pharmaceutical Association of Books from the Bell and Hills' Fund.

Presentation to Mr. Edmund White, B.Sc., F.I.C.

Place of meeting for 1911 (Portsmouth).

Motion by Mr. J. C. Umney: "That Art. I., Object 4, shall read, after the word 'established,' 'for the advancement of the science and practice of pharmacy'."

Decision as to whether the British Pharmaceutical Conference shall appoint ten representatives to form with ten representatives of the British Medical Association a Joint Standing Committee to promote the realisation of aims found to be common to both bodies.

Election of officers for 1910-1911.

Votes of thanks.

See Coloured Supplement for a report on these items.

Medical Gleanings.

Mercurial Cream.

STAFF-SURGEON H. C. EVANS, R.N., as the result of various experiments, finds the following formula to be most generally useful:

Mercury, by weight	...	...	20 parts
Anhydrous lanolin, by weight	...	...	30 parts
Chlor-butol, by weight	...	...	2 parts
Liquid paraffin to	...	...	100 by measure

The cream contains 1 grain of mercury in *m.v.*—*Lancet* (1910, I., 926).

The Effect of Tobacco-smoking.

DR. H. O. REIK, of the Johns Hopkins University, Baltimore, publishes an article in a recent issue of the "Boston Medical and Surgical Journal" on the effect of tobacco-smoking. If an indictment against tobacco were formulated the following would be laid to its charge: Causing cancer of the tongue or lips; setting up a chronic catarrhal inflammation of the nose, throat, and larynx; causing loss of the sense of smell and producing deafness; producing indigestion; interfering with the circulation and giving rise to a distinctive disease of the heart; arresting physical development, impairing mentality, and reducing the vital forces; and rendering the victim more susceptible to affections of the nose and throat than the non-smoker. Reviewing very carefully all the available evidence on the subject, the author concludes that there is no evidence that cancer of the throat is due to smoking, and if smokers have contracted cancer of the tongue or lip it is not the tobacco but an injury from the stem of the pipe that is responsible. It has not been proved that tobacco causes any definite, characteristic lesions of the nose, throat, or ear. While it is possible that excessive smoking may produce a toxic effect on the olfactory and auditory nerves, there is no definite laboratory proof, and not sufficient clinical evidence to substantiate the belief. That gastric and systemic nervous disturbance may arise from excessive use of tobacco is unquestioned. Carbon monoxide is probably a more injurious constituent of tobacco-smoke than nicotine. Cigarette-smoking without inhaling is no more injurious than pipe or cigar smoking. The author explains a phenomenon commonly observed by smokers—namely, the apert effect of moderate smoking, especially if indulged in just after meals, which is attributed to the induced contractions of involuntary muscle structures; but he states that excessive smoking favours constipation because of the later paralysis of these same muscles.



Memoranda for Correspondents.

All communications must be accompanied by the names and addresses of the writers, otherwise they are not recorded. Queries by subscribers on dispensing, legal, and miscellaneous subjects pertaining to pharmacy and its allied trades are replied to in these columns, if they are of general interest. Letters submitted to the Editor for publication (if suitable) should be written on one side of the paper only. Their publication in the 'C. & D.' does not imply our agreement with the opinions of the writers.

Dental Bill.

SIR,—Should be very pleased to join and support any Society who will protect the chemist extractors and adaptors against the present Dental Bill. I fear the Pharmaceutical Society will not act till it is too late.

Yours faithfully,

Aylsham, July 23.

F. E. BUCKINGHAM.

SIR,—I quite agree with the letters on the Dental Bill from your correspondents "Syringe" and "Chemist Extractor" in your issue of July 23, and following the example of the latter, I enclose you a cheque for a guinea to be paid over to any organisation that may be formed to protect the interests of "chemist-extractors" approved of by you. The matter is serious to many who have to rely on this for a livelihood, and the time is short, and I hope all chemists who do dental work will see the necessity of following the example set by "Chemist Extractor," July 23. Far more can be done at a short meeting than in any amount of correspondence, and I trust, Mr. Editor, you will see your way to suggest a date and time for a meeting at your offices, so that we shall be in a position to get to work in the matter.

Yours faithfully,

VULCANITE. (241/68.)

SIR,—Why all this shrieking? Surely no self-respecting pharmacist (qualified as he is by examination, hence I use this word and not "chemist") can object to another section of the community endeavouring to protect its interests by stopping extraneous opposition. If pharmacists (or "chemists," as they were then) were too lethargic to protect their own craft from unqualified opposition, that is no reason why dentists should not be allowed to protect themselves. It is a matter of surprise to me that steps have not been taken long before this to prevent chemists (or pharmacists) "dabbling" in dentistry, optics, etc., without any qualification whatever except impudence. Alas! we all know the horrible butchery of the average "tooth-jerker"! How can we pharmacists hope for "protection" until we cease to encroach on other recognised professions?

Yours, etc.,

TIMOROUS TYKE. (240/65.)

SIR,—It is gratifying to see from your correspondence columns that chemists who are practising dentistry do not intend to allow their privileges to be filched from them by any action of the British Dental Association without making some fight for their rights. It will be nothing short of a scandal if chemists who have practised dentistry for five years are debarred from sharing in any of the provisions of any new Dentists Act which may apply to other unregistered dental practitioners. I have been engaged in dental work for over thirty years, and for the greater part of that time have also carried on a chemist's business, but have for nearly three years given up the latter to devote my whole attention to dentistry. My knowledge of chemistry has certainly been a help in my dental work, and I trust you will see your way to adopt the suggestions made by Mr. Hunt in your issue of July 16.

Yours faithfully,

FIAT JUSTITIA. (237/38.)

SIR,—It is said that every bullet has its billet, and it does seem that at last the bullet which has just been aimed at chemists in particular by a section of the dental profession

has hit the bull's-eye and made the bell ring. I am very glad that you have taken this matter seriously to heart and are arousing chemists to their danger. I mean chemist-dentists (unregistered, of course), for it is only in numbers and cohesion that safety lies. Having been aware of the danger for some time past that the satisfactory dental practice, built up by over twenty years' earnest work, might be filched from me, and which I could ill afford to lose, I have protected myself so far as it is possible by joining the National Dental Corporation, Ltd., an organisation consisting of registered and unregistered practitioners, some of whom possess the L.D.S., some foreign diplomas, and others none at all, yet all conducting their practices on ethical lines without showcase or advertising other than merit, thus setting an example of what should be, under new and proper legislation. Having now been elected to the Council of the N.D.C., Ltd., being practically on the spot, I consider myself as a representative of chemists who practise dentistry, and am glad to be associated with other wideawake members of our craft already in the Association and with others still joining. While fully recognising that we as chemists should band ourselves together to emphasise our cause, I think it would be equally well or even better, and less trouble, to strengthen an existing organisation of which on certain conditions chemists are entitled to become members. As "Syringe" points out, chemists "have more right of consideration than inexperienced canvassers." I am glad to see that "Chemist Extractor" has set a good example by providing the "sinews of war." I shall be pleased to receive and answer any communication regarding the National Dental Corporation, Ltd.

Yours faithfully,

155 Lavender Hill, London, S.W.

S. V. BROOK.

[We have also received letters of support to opposition of the Bill from other correspondents, whose names and addresses we reserve for reference, when the time comes for organisation. Space does not permit us to print all the letters.—EDITOR 'C. & D.']

Sale Plans.

SIR,—"Pill Pusher" writes: "Yes, sir; it is the man that your correspondent wants first." Was it by accident or the design of your blue pencil that the rest of the sentence was omitted? Clearly it should have read, "... and the man is 'Pill Pusher.'"

Yours obediently,

DISILLUSIONED. (236/64.)

Still on Spirits.

SIR,—Now that your correspondent "Overproof" has made it quite plain that an apologist for the position taken on the subject by the Excise authorities is needful, the outlook as to the possibility of something being done is more hopeful. The contribution by "Overproof," while a capital exposition, and one that should be of interest to your readers, reads in every line the fact that certain authorities find it advisable to act on the defensive, and though the counsel for the defence makes a good show, the fact that it is on the defensive is good reading. Yet through all the contribution "Overproof" submits no valid reason for the retention of the outrageous tax on medicinal spirits. It may be all very well, of course, from the official point of view to suggest hesitation in regard to the network of those meshes, but "Overproof" gives no reason at all why "so able an advocate" should hesitate. That the South African revenue methods are not founded on lines such as our own is quite likely, it would appear that they have not been swaddled with the same amount of red-tape; and though "long experience" does count for something, at the same time it is quite possibly a fact that some of our colonies may, and do, set a good example in some things to the Old Country. The fact that the duty on spirits in England in 1742 was only 3s. 4d. per gal. goes to emphasise the greater need for the abolition of the present duty. At that date the duty evidently bore some relative proportion to the cost of production. At the present time the duty and cost bear no relative proportion whatever. The difference betwixt the two duties goes well to show the amount of plunder extracted from this source. I thank "Overproof" for this new weapon; it will be useful. The

fact that the regulations affecting the sale of spirit in less quantities than 2 gals. by wholesale houses are calculated to upset the organisation of entire businesses is, of course, a mere detail and of no moment to the authorities. Somehow business, whether affecting the individual or the State, never does appear to them worth considering. It makes one wonder at times what really is the official ethical standpoint in this respect. Whether it be that being "clad in a little brief authority" conduces merely to mental obliquity of vision, or is it playing a wilful game of shut-eye? I wonder. I have already offered to submit an alternative method of revenue-raising; and I venture to say, did I state the method here and now, and put it to the vote, it would be carried by at least 90 per cent. of the drug-trade and 99 per cent. of the medical profession. I reiterate my position thus:

1. That the tax on medicinal spirits is an injustice.
2. That it can be shown (has been shown) that safeguards as to control can be devised.
3. That no other valid objection to duty-free spirit for medicinal purposes can be raised by the Excise authorities.
4. Therefore the abolition of the duty is the duty of our legislators.

Yours truly,

J. HADDOCK.

34 Hanover Street, Liverpool, July 23.

* * Several letters are unavoidably held over this week.

Subscribers' Symposium.

(Information Solicited or Supplied.)

Cycle-tyre Solution.

Zeta (241/55) wants to know what cycle-tyre tubes are filled with to prevent puncturing. Can anyone say?

Eczema Pigment Wanted.

Faithfuls (237/22) asks if any subscriber can give the formula for eczema pigment or ointment used very extensively among soldiers in the Boer War.

Price of Ointment.

The dispensing charge in Mr. L. A. Davies's letter (*C. & D.*, July 23, p. 131) should be 1s. (not 6d., as stated). The total works out correctly.

Loose-leaf Ledgers.

I should be much obliged if some of your readers who have used loose-leaf ledgers would speak as to their suitability for pharmacists, and state if any particular make is preferable. —*Progress*. (239/13.)

Closing Collapsible Tubes.

I shall be glad if any of your correspondents can tell me of an effectual method of closing collapsible tubes, filled with tooth-paste made with glycerin and water (1 to 3) as excipient. I find that the glycerin always exudes. —*C. H. D.* (242/54.)

Cricket: Manchester v. Liverpool. (A Challenge.)

I see from time to time that various chemists' cricket teams visit and play neighbouring towns. Manchester is behind in such matters. Why don't we tackle Liverpool chemists? If any Liverpool chemist will get up a team of Liverpool pharmacists, I will raise a team to represent Manchester. I suggest August 31 (Wednesday) as a good date; it will give us time to arrange matters. Play either in Liverpool or Manchester; as we are the challengers we will go to Liverpool this year. —*C. Brown* (161 Bury New Road, Manchester).

Lemon-copper Coal-box.

Some time ago you gave directions from one of your provincial correspondents how to make a "pharmaceutical" coal-box, which rather interested me, with the result that I now have such a box, and very well it looks (my copper was a 50-lb. one). It is quite an ornament, and the cost is very trifling. I take exception, however, to one part of the instructions—"the whole of the exterior well polished by hand." I humbly submit that it looks much better in its natural dull colour, and after the deepest dents have been carefully hammered out it has the appearance of old beaten copper work unpolished. —*Wm. Bousfield* (Sutton Coldfield).

What is Golden Syrup?

Sixty years ago large quantities of a brown sweet sugar, rather moist, was imported from Demerara in hempen bags. After the bags were emptied, in every large town there was generally a man who bought them of the grocers, steeped them in water until quite clean, and then evaporated the

solution of sugar to the consistence of a syrup, and sold it as treacle. This, being evaporated over a naked fire, was generally dark in colour, almost black by partial carbonisation. Some years after a firm at Bristol (I believe) introduced a treacle made in a different way, either by using a centrifugal machine or steam pans; it is very bright and clear and light in colour, and was called "golden syrup." —*Edwin Yewdall*.

Tea Notes.

The tea infusion served up as a beverage has usually been regarded as adequately rendered assimilable to the system by the addition of cream, probably an emulsion being formed which prevents any ill-effect from the tannin it contains. The position in the leaf of tannin is understood to be in the substance, not in the woody fibre. With samples forming stronger and weaker looking infusions, the colour of the fluid on pouring is some indication of the price, the high-priced having an amber tint. In forming an opinion of a sample of tea, care should be taken to avoid judging by the colour of the infusion formed from equal bulks of the samples (the stalk is wrapped in the leaf), and the same bulks could give the same colour effect, one, being a cheap tea, in comparatively large particles, and the other a smaller grade and more expensive tea. I have not found either of these two classes of tea to give injurious health effects, although, of course, it is always the more expensive brand the public would aim at. —*J. C. Thomlinson, B.Sc.*

What is "Nothing"?

We have met with the name several times in Lancashire and Cheshire, and they always supply mel boracis coloured with a little Armenian bole. —*Thos. Tomlinson & Son* (Manchester).

Re your inquiry in the *C. & D.*, July 23, as to what is required when "Nothing" is asked for, it is a term used in the Potteries for mel boracis coloured with Armenian bole. —*G. S. Goodall*.

I see in this week's issue "Nihil" (233/35) is inquiring what "Nothing" is. Mel boracis is the usual article supplied, and "Nothing" is the usual term given in many parts of Lancashire. —*G. D. Denwood* (Chesterfield).

Some few years ago, when I was an assistant, I was asked for a pennyworth of "Nothing." I had to appeal to the proprietor, and he told me it was glycerinum boracis coloured with liq. cocci, for "thrush." Since then I have always sold this for "Nothing." —*S. M. Bostock* (Northwich).

In reply to "Nihil's" question, "What is 'Nothing'?" in the Midlands, if the customer brought a bottle, we gave syrup. rhæados; otherwise we gave mel boracis c. bol. armen. We also got inquiries for potato drops (tinct. aloes co.) and lock salmon (syr tolu). I do not know if the two latter are common, but I never met them except in the Black Country. —*R. T. Christopher*.

Forty years ago this was a very popular remedy for the "thrush" in the Potteries. I cannot say if it is largely used there now, as I left Hanley in 1879. My father's business was a very old-established one, dating from 1833, and he claimed to be the originator of "Nothing"—at any rate, we sold from 6 to 18 oz. a week. I enclose the form as taken from my father's receipt-book:

"Nothing."

Acid. sulph. dil.	...	...	...	3ij.
Mel rosæ ad	...	...	...	3vj.

M.

To be applied to the mouth with a feather.
3d. per 3j.

Mel Rosæ.

Inf. rosæ	...	...	...	Oj.
Mel	...	...	...	lb. iv.

Simmer on fire.

That up to date would be to make an oxymel similar to B.P., substituting inf. rosæ for acetic acid and water. —*C. A. Jones* (London, E.).

With regard to the inquiry giving the semblance of a suggestion of "Much ado about 'Nothing'" in your issue of July 23, I beg to say, in the first place, that to expect "something for 'nothing'" does not, of course, necessarily imply that type of customer. During my experience in the Potteries, it was invariably the custom to meet such inquiries by supplying either mel boracis or glycer. boracis—the latter (coloured slightly red) if a bottle were tendered. In every case it was required for "thrush." —*A. E. J.* (239/68).

[Other replies to the same effect as the majority have been received.—*EDITOR C. & D.*]

Miscellaneous Inquiries.

As we do not in this section repeat information given during the past twelve months, inquirers should refer to the copies mentioned. Back numbers for the past five years can generally be obtained from our office at the published prices.

Gardener (235/3).—LAWN-SAND is a mixture of
 Calcium acid phosphate ... 1 part
 Crude ammonium sulphate ... 5 parts
 Sand ... 4 parts

H. P. (232/71).—PASTE SHEEP-DIP.—The manufacture of paste sheep-dips is a matter of grinding together the ingredients in a mixer resembling a mortar-mill. Formulae for the non-poisonous pastes were given in the *C. & D.*, February 19, p. 306; the arsenical pastes are made by grinding together the following ingredients:

White arsenic	...	...	3½ lb.
Flowers of sulphur	...	...	3½ lb.
Caustic soda	...	...	½ lb.
Soft soap	...	...	4 lb.

This quantity is for 40 gals. of sheep-dip, the paste being gradually mixed with the water.

Aniline (219/71).—(1) SOLUBILITY OF ANILINE DYES.—It is not possible to indicate precisely the best solvent for aniline dyes, as it varies according to the kind of dye. Schultz and Julius's "Organic Colouring-matters" (Macmillan, 21s.) indicates, as a rule, the media in which particular dyes are soluble, but there is no published work that indicates definitely the solubility of aniline dyes. (2) There is no book published dealing solely with the manufacture of artificial fruit-essences.

Crino (218/22).—(1) SHAMPOO-POWDER.—See *C. & D.*, March 12, p. 424. (2) DRY-SHAMPOO.—See *C. & D.*, July 9, p. 66 (for saponaceous variety), and *C. & D.*, August 8, 1908, p. 250 (for quillaia kind). In regard to selling a dry-shampoo at the price you mention, this could only be done by using industrial metbylated spirit, to do which you must first obtain permission from the Board of Customs and Excise. (See *C. & D.*, April 8, p. 540, and April 16, p. 576.)

R. F. (218/60).—BOOKS ON PAINT-MIXING.—Jennings' "Paint and Colour Mixing" (Spon, 5s.); Terry's "Pigments, Paint, and Painting" (Spon, 7s. 6d.); and Desaint's "Three Hundred Shades and How to Mix them" (Scott, Greenwood, 21s.).

F. D. (Budapest) (232/60).—SKIN-CREAM.—See *C. & D.*, April 17, 1909, p. 601.

Ero (219/67).—MANUFACTURE OF SOAP.—See "Pharmaceutical Formulas," ed. vii., p. 947.

Meta (222/63).—We have not examined the proprietary article to which you refer, and it is not our practice to do so.

H. S. B. (225/59).—ICE-CREAM POWDER.—See *C. & D.*, April 2, p. 524.

D. M. D. (227/2).—HEALTH-SALT.—The following is a good formula for the saline which is sold under this name:

Sodii bicarb.	...	...	5ij.
Pulv. acid. tartaric.	...	...	5iss.
Pulv. pot. tart. acid.	...	...	5iss.
Pulv. sodii sulph. exsicc.	...	...	5j.
Pulv. sacch. alb.	...	...	3vj.

Dry each ingredient carefully before mixing, and pass the powder through a sieve.

D. C. L. W. (220/29).—For the method of using ethyl chloride for freezing the gums in tooth-extraction see this year's *Diary*, p. 457.

H. A. B. (218/8).—(1) NON-GREASY SKIN-CREAM.—See a series of four articles which appeared in the April numbers of this journal last year. (2) PHOTOGRAPHIC MOUNTANT with dextrin:

White dextrin	...	...	1 lb.
Water	...	...	q.s.
Oil of wintergreen	...	...	1 dr.

Mix the dextrin into a smooth paste with a little water and mix in the preservative, then add 10 oz. of water and gently heat until solution takes place. Pour into pots while still liquid.

E. V. G. (107/1).—BOOK ON MATERIA MEDICA.—You cannot do better than employ Greenish's "Materia Medica" (Churchill, 15s.), which was reviewed in the *C. & D.*, January 8, p. 51.

J. H. (223/64).—CONSUMPTION-CURE.—This "serum" is new to us, and analysis does not aid in obtaining information as to its composition. It has some of the characteristics of gelatin.

Sarsa (218/32).—SARSAPARILLA BEVERAGE.—The practice seems to be to make this by mixing an essence with water, or else to supply a brewed sarsaparilla-stout. The following is the formula for the ESSENCE OF SARSAPARILLA:

Ext. of sarsaparilla	...	...	1 oz.
Oil of sassafras	...	...	3 dr.
Rectified spirit	...	...	8 oz.
Caramel	...	...	sufficient to colour
Water	...	...	12 oz.

Dissolve the extract in the warm water, add the oil dissolved in the spirit and the caramel.

Some makers add a little wintergreen and orange as additional flavours. The essence is employed in the proportion of 2 oz. to the gallon.

W. C. (225/71).—GARLIC-MIXTURE FOR GAPES.—This is best made on the model of the syrup of garlic formerly official in the U.S.P.:

Garlic, fresh, sliced and bruised	...	...	3½ oz.
Sugar	...	...	13¼ oz.
Dilute acetic acid to make	...	...	16 oz.

Macerate the garlic with 5 oz. of the dilute acid for four days and express the liquid, avoiding the use of metallic vessels. Then mix the residue with 3 oz. more of the acid and again express. Mix the expressed liquids and filter. Add the sugar to the filtrate and stir till dissolved, making up to 16 oz. with dilute acetic acid.

M. B. (225/2).—SOFT-SOAP.—The recipe for this was given in the *C. & D.*, March 19, p. 455. That number can be obtained for 6d. on application to the Publisher.

P. H. E. (275/7).—STOVE-POLISH.—See *C. & D.*, December 18, 1909, p. 948, for a model formula, from which you could start to imitate the sample you send.

H. B. M. (232/25).—THE DEPOSIT IN FORMALDEHYDE SOLUTION (40 per cent.) is para-formaldehyde. This solid when heated is re-converted into gaseous formaldehyde, and the only mode of re-dissolving the separated para-formaldehyde is by filtering it out, heating, and leading the gaseous formaldehyde into water.

F. E. J. (235/26).—SEWER LEAKAGE.—See reply to "C. W. P." in this column last week under "Drain-testing Powder" for fluorescent colour. If such a colour is decolorised by passage through soil, recourse must be made to a soluble salt, which can be easily identified spectroscopically in the contaminated fluid. Lithium carbonate has been used for this purpose.

Analysis (240/19).—BOOK ON WATER ANALYSIS AND SEWAGE EFFLUENTS.—J. C. Thresh's "Simple Method of Water Analysis," 2s. 6d. (Churchill), will meet your requirements for a simple treatise as regards water analysis. The larger work by the same author on "Examination of Waters and Water Supplies," 14s. (Churchill), deals with polluted waters also.

Retrospect of Fifty Years Ago.

Reprinted from "The Chemist and Druggist," July 14, 1860.

An Early Nitro-glycerin Proving.

Some time ago, says the "Journal de Chimie Medicale," Dr. Field was induced by a homœopath to put two drops of a solution upon his tongue, and was immediately seized with uncontrollable fits of yawning and soon became insensible. The homœopath supposed that he had committed murder, but was considerably relieved when, having administered stimulants, he observed the patient restored to consciousness. The substance of the solution turned out to be nitrate of oxide of glycyle, a powerful poison, obtained by treating glycerine at a low temperature with sulphuric or nitric acid. One drop mixed with 99 drops of spirits of wine constitutes the first dilution; and Dr. Field was immediately struck with the idea that, if much weaker, the solution must be a useful sedative of the nervous system, while the homœopath was overjoyed at the discovery of a powerful remedy for apoplexy. Dr. Field tried this new remedy on a lady sixty-eight years of age, who suffered from neuralgia, and experienced no relief from the ordinary remedies. The fourth part of a drop of the solution was administered and afforded relief, and the second dose effected a complete cure. It has since been tried in cases of headache and dental neuralgia, with equal success.

[Sobrero, of Turin, discovered nitroglycerin in 1847, and in the same year Morris Davis, a Philadelphian chemist, made a little for the use of Hering, a homœopath, who introduced it into medicine. The quotation refers to practically the first allopathic use of the remedy.]

Trade Report and Market Review.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are obtained for selected qualities of natural products even in bulk quantities. Retail buyers cannot, therefore, for these and other reasons, expect to purchase at these prices.

42 Cannon Street, London, E.C., July 27.

AS this section of the Trade Report closes on Wednesday evening, a full report of the drug auctions will be found in our Coloured Supplement. Meanwhile, with quiet business conditions, price alterations have been few. Among the chief is a reduction in quicksilver, and early in the week prices dropped 15s., but subsequently recovered. Mercurials are unaltered. Codeine and salts are 5d. per oz. lower. On the other hand, there has been a substantial rise in castor oils, and to a less extent in nut oil and clove oil. New Irish moss is dearer. Jalap and ergot are firm. Linseed and dill seed are higher. Shellac, after being lower, closes firm. Menthol and senega are quiet; as is citric and tartaric acids. Turpentine is slightly easier, but higher prices are eventually predicted. The principal changes have been as follows:

Higher	Firmer	Easier	Lower
Castor oil Clove oil Irish moss Linseed Nut oil Stavesacre	Ammonia sulphate Copper sulphate Dill seed	Guinea grains Insect flowers	Codeine and salts Indiarubber Quicksilver Turmeric (Madras)

Cablegram.

NEW YORK, July 27.—Business in drugs is fair. Opium is weak at \$5.50 per lb. for druggists'. Jalap is steady at 38c. Menthol has advanced to \$2.90 per lb. Cascara sagrada is quiet at 7½c. Mexican sarsaparilla has advanced to 10½c. Senega is easier at 46c., and round buchu has advanced to \$1.40. Peppermint oil in tins is easier at \$1.80. Copaiba and hydrastis are unaltered.

London Markets.

ACID, CITRIC, remains extremely quiet at from 1s. 4d. to 1s. 4½d. per lb. for foreign, and 1s. 4½d. for English.

AMERICAN DRUGS.—The following are some of the current quotations: Bayberry bark, 3d. per lb.; sassafras, 8d.; wahoo of root, 1s. 5d.; wild cherry, 4¾d.; damiana-leaves, 2s.; golden seal, 8s. 7d.; blood-root, 4½d.; serpentina, 2s. 4½d. per lb.—all net, on the spot.

ANISEED is slow of sale at 23s. per cwt. for Levant, 25s. for good Russian, and 35s. for Spanish.

BALSAM, CANADA, in tins, is quoted at 2s. 10d., and at 2s. 9d. in barrels, net, on the spot.

BALSAM, PERU.—Privately 6s. 10d. per lb. net is quoted.

BUCHU.—The *Balmoral Castle* has brought 15 packages mostly round, which will be offered at auction to-morrow, if in time. Privately 4s. 6d. has been refused for a bale of round. The New York price (see cable) has advanced to \$1.40, or 5s. 9d. per lb.

CANARY-SEED is quiet and unchanged at 41s. per quarter for Turkish and ordinary Morocco, 46s. for good Morocco, 55s. to 62s. 6d. for fair to good Spanish, and 67s. 6d. to 75s. for fine to very bold.

CARAWAY-SEED is steady at 28s. per cwt. for good Dutch on the spot.

CHAMOMILES.—The new Belgian crop is expected to be ready in a fortnight. It is anticipated that prices will open

high, as the acreage planted is said to be less, and the wet weather has also affected the crop.

CLOVES.—Fair Zanzibar have been sold on the spot at from 5½d. to 5¾d. per lb., being dearer.

CODEINE.—The makers announce a further reduction of 5d. per oz. in codeine and salts; the quotation for pure crystals is 9s. 7d. per oz., in minimum contract quantities.

CORIANDER-SEED is very firm at 11s. per cwt. for common and 12s. to 12s. 6d. for fair to good Morocco.

CUMIN-SEED is steady at 32s. 6d. per cwt. for common and 38s. for good sifted Morocco. Malta is firm at 34s. to 38s. c.i.f. terms for fair to fine quality.

DILL-SEED is dearer at 12s. per cwt. on the spot.

DIGITALIS-LEAVES have been in fair demand, with the higher rate of 57s. 6d. c.i.f. asked for new crop to arrive.

ERGOT firm, with Russian offering at 1s. 5½d. per lb. c.i.f. to arrive, and Spanish has been sold at 1s. 7d. spot.

FENUGREEK is firm at 11s. per cwt. for good Morocco on the spot.

GALLS.—Sellers of Chinese quote 42s., c.i.f., for July-August shipment.

GAMBIER.—Cubes are steady at 38s. per cwt. on the spot.

GUINEA-GRAINS.—Spot holders ask 95s. per cwt., which is a little easier than our last quotation.

INSECT FLOWERS have declined; finest closed Dalmatian offer to arrive at about 120s. per cwt. c.i.f.

IODINE.—The total exports of crude iodine from Iquique during the years 1907-09 have been as follows:

Destination	1907	1908	1909
	Quintals	Quintals	Quintals
United Kingdom	1,512	970	1,049
Germany	1,017	1,727	2,494
United States	1,603	1,050	1,714
Chile (Valparaiso)	6	5	3
Total	4,138	3,752	5,260

IRISH MOSS.—The crop this year has been very small owing to bad weather conditions which prevailed during the spring. A large quantity also turned rotten, the continuous rains preventing it from becoming dry. The quantity harvested has, therefore, been reduced, and prices have advanced.

JALAP remains firm, with sales 10 per cent. at 1s. 6½d. c.i.f., but 1s. 8d. is now asked for shipment from the Continent; spot is worth from 1s. 5½d. to 1s. 6d.

LINSEED is dearer at 64s. to 66s. per quarter for good clean quality. One of the leading crushers has advanced his price 10s., to 19l. 10s. per ton.

NUT OIL has advanced about 6d. per gallon, one of the leading dealers quoting 46s. per cwt. This is said to be due to the shortage in cotton-seed oil.

OIL, CITRONELLA.—Ceylon is steady on the spot at 1s. per lb. for drums, and 1s. 1¼d. per lb. for cases.

OIL, CASTOR.—Hull make is 15s. per ton dearer, first pressing having advanced to 31l. 15s. per ton for prompt to December; pharmaceutical is 34l. 5s., and miscible firsts 33l. 5s., all in barrels, delivered free on wharf London.

French has also advanced 2s. to 3s., barrels offering at 36s., and cases at 38s., in quantity.

OIL, CLOVE.—Owing to the advance in cloves, one distiller has raised his price to 3s. 7d. and another to 3s. 6d. per lb. in quantity.

OIL, LEMONGRASS, is quiet, at 2½d. per oz. on the spot.

OIL, TURPENTINE, closes at 50s. per cwt. for American, but higher prices are confidently predicted.

OPIMUM.—A Smyrna advice, dated July 15, states that the past week has again been a busy one, important sales having taken place at unaltered rates. Had it not been for the considerable arrivals, amounting to 396 cases, and to the compliance of holders, who do not wish for a rise at the moment, it is beyond doubt that consumers would have had to pay an advance, judging from their eagerness to buy. The sales are as follows: Eleven cases new Karahissar at the equivalent of 11s. 3d., 49 cases ditto at 10s. 10d., 14 cases prime at 10s. 4d., and 27 cases Adette at 10s. 1d. per lb., c.i.f. European ports. Market closed weak in spite of the demand. However, as has been said in previous reports, the situation may change entirely should large American consumers appear on the market. The arrivals amounted to 818 cases, against 395 cases last year at the same date. The quality of the new Turkey crop is stated to be infinitely superior in alkaloids to the past three crops, and according to analysis it is reckoned most qualities on an average are 1¼ per cent. stronger in morphine.

OTTO OF ROSE.—For old crop of well-known brands, spot holders ask the higher rates of from 30s. to 30s. 6d. per T.oz. Most agents appear to be without prices of the new as yet.

PEPPER (BLACK).—The spot market is quiet at 4½d. for fair Singapore, at which small sales have been made; for arrival August-October shipment has been sold at 3½d. c.i.f.

PEPPER (WHITE).—Steady on the spot, with sales of fair Singapore at 6½d. per lb.

PIMENTO.—At auction 135 bags were offered and partly sold at 2½d. per lb. for ordinary.

QUICKSILVER.—On Monday a large business was done down to 8l. per bottle in first-hands, and 8l. 2s. 6d. from seconds; subsequently, however, the official price was fixed at 8l. 12s. 6d. (a reduction of 2s. 6d.), second-hands quoting 8l. 8s. An *impasse* was created early in the week, so that mercurial-makers decided to make no alteration.

QUININE is extremely quiet, with second hands offering the usual German brands of sulphate at 7d., Amsterdam at 6½d. per oz.; makers quote 7½d.

SHELLAC has eased off somewhat, but closed firm on Wednesday on the spot at 88s. to 89s. per cwt. Good and fine orange marks are quoted 92s. 6d. to 105s. spot.

STAVESACRE is reported to be dearer on the spot, but cheaper to come forward.

TURMERIC.—Sellers of Bengal finger quote 18s. to 19s. per cwt., and Cochin split bulbs at 12s. 6d. to 13s. 6d. per cwt. spot, according to quantity. Madras is easier, sales of good finger being reported at 21s. spot.

Manchester Chemical-market.

July 26.

The heavy chemical market has been rather featureless during the past month, and it is thought in some quarters that the export department has been rather slow, and may show a slight decline on the month. The holidays in industrial Lancashire are also becoming general, and this cannot fail to affect local demand to some extent. Otherwise, prices have been well maintained. Caustic soda closes on the easy side, and some local dealers are inviting inquiries, and will give special quotations for substantial quantities. The same remark also applies to caustic potash (solid). Bleaching-powder has been rather quiet. Industrial bicarbonate of soda is in moderate demand, but saltcake and soda crystals remain steady. Copper sulphate has been fairly steady throughout, and closes 5s. to 7s. 6d. per ton higher, as compared with the end of June. It is not expected that the reduction in raw copper will have much effect, as sellers are only offering sparingly. White powdered arsenic and brown acetate of lime have shown little change. Acids have been steady, but cream of tartar has gained 1s. to 1s. 6d. per cwt. on the month. There has been practically nothing doing in pitch on spot, and shipments are on a small scale. Carbolic

acid remains about the same, but benzols are fractionally lower. Creosote has been firmer. There has been rather more doing in sulphate of ammonia, which closes at 11l. 8s. 9d. to 11l. 10s. per ton, on rails, Manchester.

Heavy Chemicals.

The general tone of the heavy chemical market shows little appreciable change from the position recently indicated, a fair, steady business being done, and any fluctuations are mostly due to local holidays. The main products of the alkali section remain steady, and bleaching-powder, caustic soda, and ammonia alkali are in fair active request.

BICHROMATES OF POTASH AND SODA move quietly at unaltered figures. Bichromate of potash, English and Scotch deliveries, 3½d. per lb., less 5 per cent., and export 3½d. per lb. net f.o.b. Glasgow. Bichromate of soda, English and Scotch deliveries, 3d. per lb., less 5 per cent., and export 2½d. per lb. net f.o.b. Glasgow.

STRONTIUM PRODUCTS are in rather better request and rule firm. Precipitated carbonate of strontia, 90 to 95 per cent., 11l. to 12l. 10s. per ton; mineral carbonate of strontia lump, 87 to 91 per cent., 14l.; and smalls, 80 to 85 per cent., 12l. per ton; hydrate of strontia crystals in casks, 9l. to 9l. 15s. per ton.

BARIUM PRODUCTS are also moving somewhat better, and inquiry on miscellaneous account has been heavier. Prices all round rule steady at recent rates. The mineral carbonate of barytes, or witherite, continues on the scarce side, though smalls are in rather better supply than they were. All transactions, however, are subject to special arrangement *re* delivery. Blanc fixe, pure precipitated sulphate of barium in paste form, 6l. 10s. to 7l. per ton in ordinary casks. Mineral sulphate of barytes varies according to quality, quantity, and package from 35s. to 90s. per ton, and general demand for all grades is a fair average. Chloride of barium continues to maintain a steadier tone at 6l. 15s. to 7l. 2s. 6d. per ton in casks for ordinary refined coarse or fine crystals. Precipitated carbonate of barium, 6l. to 7l. per ton in bags. Hydrate of barium, purest crystals, 13l. to 14l. per ton in 6 to 7 cwt. casks. Barium hydrate, fused concentrated, 56 to 60 per cent. solid, in 6 to 7 cwt. drums, 13l. 15s. to 14l. per ton; and similar quality in crushed state and in special drums, about 3 cwt. each, 30s. per ton extra. Crude calcined barium sulphide, 70 to 75 per cent. barium sulphate, 5l. 2s. 6d. to 5l. 15s. per ton.

American Drug-market.

New York, July 19.

Quiet conditions are reported in nearly all sections of the New York drug-market, trading being confined to the usual summer proportions. In some quarters, however, a mild improvement is noted, and the general tone of the market may be described as confident, with prices steady.

ALOES.—Receipts of new crop Curaçao have not yet come up to earlier expectations, and prices are firm on the basis of 7½c. for jobbing parcels. Several large lots have changed hands at 7½c., which is regarded as an inside figure. Gourds are very scarce, and holders are firm in their views at 10½c.

ASAFFETIDA continues scarce and firm at the former range of \$1.25 to \$1.50, the outside figure being quoted for strictly U.S.P. Powdered drug is available at lower prices, but the quality is extremely poor. Copaiba is in plentiful supply, and, with the small demand, prices are rather nominal at 38c. for C. and S. American. Para is worth 43c. to 46c., according to quality.

BUCHU.—Shorts continue very scarce in this market, and the available supply of round green is held by a few dealers. Offerings are restricted to small lots for regular customers. Following sales of several bales at \$1, prices rapidly advanced to \$1.10, with several dealers refusing less than \$1.25.

CASCARA SAGRADA is rather quiet on spot, the large consumers as a rule holding off in anticipation of lower prices with the arrival of new peel. Reports from primary sources are to the effect that the yield this season will be poor—probably 30 per cent. below normal—and this estimate is supported by the firm attitude of Coast dealers, 6c. f.o.b. being asked for raw peel. Spot prices are more or less nominal at 7½c. to 8½c.

PEPPERMINT OIL (AMERICAN).—The seasonable reports of small acreage and damage to plants have had little effect in stimulating demand, and values are unaltered at \$1.80 to \$1.85, with better terms available for large lots. With the commencement of distillation (expected shortly) in the various districts, a fairer estimate of the crop will be available.

SARSAPELLA.—Inquiry at primary sources by a local dealer for 100 bales Mexican revealed an unexpected shortage, and the advanced price of 9c. had to be paid. Spot prices consequently rose, and at the close from 10½c. to 11c. was reported paid for large parcels.

SENEGA is moving slowly at the recent decline to 47c. During the week reports of damage by water to a lot of 10,000 lb. stimulated the market slightly, but at time of writing the effect had worn off somewhat. [Since advanced.]

EXCHANGE COLUMN.

One halfpenny per word with name and address. One penny per word if we register the address and attach a number.
No advertisement inserted for less than 6d.

FOR DISPOSAL.

APPARATUS.

SYPHON-FILLING plant, complete, "The Orient," by Bratby & Hinchcliffe; quite new; cost £40; will be sold a bargain. 130/04, Office of this Paper.

DRUGS AND CHEMICALS.

WHAT offers, 3 original Winchesters ol. lavand. August 1906? PABEE, Uttoxeter.

PROPRIETARY ARTICLES.

THREE B Sparklet syphons, 2 7s. 9d. sparklogenes; what offers? "BRUNO," 141 St. James's Street, Burnley.

SHOP FITTINGS.

OFFERS?—Midland Camera Co.'s (Birmingham) check-till; good condition. ROSSITER, Chemist, Tiverton.

2 LB. brass counter-scales, 2-oz. dispensing ditto, pillar, offers; glycerine B.P. wanted. 135/9, Office of this Paper.

FOR disposal, O'Brien check-till; excellent condition, cost £4 10s.; price £2 5s. "Aspirin" (128/19), Office of this Paper.

FOR sale, ornamental globe lamp, as Sanger's fig. 92, complete with bracket; a sacrifice, £1 10s., carriage forward; may be seen any time. SHIRTLIFF & Co., Chemists, Acton, London, W.

SHARES.

SHARES for sale, see p. 210.

MISCELLANEOUS.

SPINAL carriage, 4-6, as Maw 1151; price £3 10s. GILBERT JACKSON, Sheffield.

WATER-BED, 4 ft. by 3 ft.; weight 12 lb.; good condition; £1 10s. A. WESTON, 405 High Road, Gunnersbury, W.

BED-REST, not used, 17s. Down's list; exchange for Kodak or with cash. "PHARMACIST," 81 Borough Road, S.E.

OUTSIDE spherical red lamp (3 bull's-eyes), daylight and gaslight enlargers; water-bed, 72 by 30; also air-bed; all fair condition. BAYNES, Chemist, Margate.

BEARD'S oxygen-regulator, 3-in. oxygen gauge, with unions, 21s. the pair; high-power limelight jet, 7s., all in good order; carriage paid for cash. "BRUNO," 141 St. James's Street, Burnley.

SEVERAL dozen 20 and 30 oz. labelled shop-rounds, 4s. doz.; 1 cwt. Lever's No. 1 glycerine; 5 1-gall. jars Iglodine, 2 doz. 2s. 11d. Virol; 1 doz. 1s. Iglodine; 1 gross Ozonia. Offers, HUBBLE, Workington.

WANTED.

POWER tableting machine. State particulars, 132/6, Office of this Paper.

PLATINUM; any form or quantity; prompt remittance. ROWSELL, 11 Crebor Street, Dulwich.

STUDENT'S materia medica cabinet. Particulars and price to "BURTON," 84 Fenchurch Street, E.C.

SECOND-HAND fittings, drawers, shelving, dispensing-screen, wall and counter-cases, etc. Give full particulars, 131/8, Office of this Paper.

OPTICAL books; Minor, Major, Chemists' books; send prepaid for valuation; cash offers per return. GOWER, Bookseller, Waterloo, Liverpool.

SECOND-HAND water-bed, sound and in good condition. Particulars of size and price to Mr. E. W. TAYLOR, 83 High Street, Newport, Mon.

2 DOZ. 10-oz. N.M., 3 doz. 20-oz. N.M., same number W.M. stop-bottles; counter, screen, and wall-cases for shop 12 by 15 ft. Please quote lowest prices to 133/27, Office of this Paper.

SHOP bottles and nest drawers, narrow mouth, about 15 by 10 oz., 40 by 20 oz., 20 by 30 oz., wide mouth about the same number; nest of 60 mahogany-front drawers. State number, size bottles, and dimensions drawers, to MOORES, 32 Navigation Street, Birmingham.

Late News.

British Pharmaceutical Conference.

THE proceedings on Thursday began with the reading of the paper on "The Flowers of *Bassia latifolia*," by Messrs. R. R. Bennett and J. D. E. Anklesaria (p. 209). There was no discussion. "The Extemporaneous Preparation of Chloroform of Belladonna," by Mr. Ernest Quant (p. 208), followed next, and it met with the commendation of Mr. Cripps. The remaining paper, by Mr. Thomas Stephenson, on "The Filling of Hypodermic Ampoules" (p. 208), was discussed by Messrs. Peck, Quant, and Bennett. Mr. Peck said it was necessary to pay 27s. per thousand for good empty ampoules, and a serum syringe was more preferable for filling than an hypodermic syringe; while Mr. Quant preferred a pipette to either, and Mr. Bennett preferred simple suction by the vacuum method. The President next welcomed overseas pharmacists, Messrs. Beresford (Brisbane) and Cooper (Cape Colony) replying. The presentation of books from the Bell and Hills Fund to the Cambridge Pharmaceutical Association was acknowledged by Mr. Church. The next ceremony was the presentation of a ring to Mrs. White and a rose bowl to Mr. White for their services to the Conference, a photograph of whom, with personal notes, appears on p. 141 of this issue. A cordial invitation to visit Portsmouth was then given by Messrs. T. A. White, Bell, and Barlow. The invitation was accepted. The motion of Mr. Umney to extend the objects of the Conference by including the practice as well as the science of pharmacy was supported by Messrs. Hay and Tocher. Mr. Wells emphasised the fact that the Executive do not mean to make the Conference a trade union. In regard to the proposed Joint Standing Committee of ten representatives each from the British Medical Association and the British Pharmaceutical Association, it was decided to reappoint the representatives who had already acted for the Conference. Mr. Idris and Mr. Neathercoat moved the appointment of officers for 1910-11 as follows: President: W. F. Wells (Dublin). Vice-Presidents: J. F. Harrington (London), J. P. Gilmour (Glasgow), John Smith (Dublin), Edmund White (London), H. G. Greenish (London), T. A. White (Portsmouth). Hon. Treasurer: J. C. Umney (London). Hon. General Secretaries: E. Saville Peck (Cambridge), H. Finemore (London). Other Members of the Executive Committee: F. H. Alcock (Birmingham), F. W. Branson (Leeds), E. F. Harrison (London), T. Maltby Clague (Newcastle-on-Tyne), H. Wippell Gadd (Exeter), D. Lloyd Howard (London), F. W. Gamble (London), C. E. Stuart (Newcastle-on-Tyne), W. A. Bell (Portsmouth). Hon. Local Secretary: T. O. Barlow. Mr. Wells responded. A photograph and biographical notes of Mr. Wells appear on p. 141.



ALD. JOHN GILLING.

Votes of thanks were accorded to the officers for their services during the past year. Mr. Peck then mentioned that the President of Queens' College had invited the members of the Conference to inspect the drug cabinet of Vignani, the first Professor of Chemistry of the University. The proceedings then ended about 11.30 a.m. When the party left for Saffron Walden at 12.15 the weather was bright and sunny. Alderman John Gilling, of Saffron Walden, whose portrait is given here, is in charge of the local arrangements.

The smoking-concert held on Wednesday evening at the University Arms Hotel was a great success. Mr. R. A. Robinson was in the chair, and during the evening read telegrams which were stated to have been received from crowned heads and others. The concert went on till midnight, and to it were contributed songs, recitations, violin and piano performances. Mr. Franklin gave several of his famous songs, and Miss Hughes, whose recitations have been a feature of the Conference concerts of late years, appeared on the platform several times. Among the other contributors to the proceedings were Mr. and Mrs. Umney, Mrs. E. White, Mr. Thos. Stephenson, Mr. Crossley-Holland, Mr. and Miss Wells, Mr. Turner, Mr. Weddell, Mr. Church, and Mr. Edmund Jones.

Legal Reports.

CRYER & Co. have transferred to 125 Hampstead Road, London, N.W., their dispensing and pharmaceutical business, which had for over sixty years been conducted at 506 Holloway Road, the lease of the latter premises having expired.

TOSH v. COOPER & NEPHEWS.—The hearing of this action (see p. 138 of this issue) was continued on Wednesday, when evidence was given by Mr. Isaac McDougall, jun., partner in the firm of Messrs. McDougall, chemical manufacturers, Manchester, and Mr. Richard A. Cooper, M.P., member of the defendant firm. Counsel then addressed the Referee, who, in the result, reserved judgment, his Honour intimating he would make his report to the Court by whom these proceedings had been referred to him. He did not think there was any necessity for him to bring the parties there again. Mr. Graham: But I should like them to know the result. The Referee: It will be filed, and you will have notice.

A LINILINE ACTION.—In the Chancery Division on July 28, Mr. Justice Swinfen-Eady heard a motion in an action brought by Mrs. Eliza Jane Chapman against Mr. Hubert Huxley Mason, trading as the Anglo-American Pharmaceutical Co., and the Liniline Co., Ltd., for an injunction to restrain the first defendant permitting certain premises at Croydon to be occupied by the Liniline Co. or any other person or company carrying on the business of linen water-proofoers or other dangerous business which rendered premises uninsurable against fire. An injunction was also asked against the Liniline Co. to restrain them from carrying on the business of linen water-proofoers or other dangerous business. Mr. Macnaghten, K.C., and Mr. G. B. Hamilton appeared for the plaintiff; Mr. Paterson for Mr. Mason; and Mr. H. F. F. Greenland for the Liniline Co. His Lordship granted the injunction until judgment in the action or further order.

STOLEN GOODS.—A sequel to the case reported in the *C. & D.*, July 23, p. 104, came before the Magistrate at the Edinburgh Police Court on July 23, when Joseph Matrondolo, an Italian ice-cream dealer, 98 South Clerk Street, Edinburgh, was charged with having resented goods which had been stolen on different occasions from Mr. David McLaren, wholesale and retail chemist, 58 South Clerk Street. The goods consisted of soaps, Seidlitz powders, perfume, Bovril, lozenges, etc. The goods had been stolen by an apprentice of Mr. McLaren's, who had informed the police that one day when he was in the ice-cream shop the accused requested him to bring along various goods, including Bovril and perfume. He was paid for the goods in cigarettes and drinks. The police afterwards found bottles of Bovril, which the accused admitted he got from the boy. The Magistrate delayed giving judgment till Wednesday, July 27, when he found accused guilty, and sentenced him to sixty days' imprisonment.

CADAS, LTD.—The action of *Fellows v. Cadas, Ltd.*, was heard by Mr. Justice Ridley in the King's Bench Division on Wednesday, July 27. The question to be tried was whether the plaintiff had been wrongfully removed from his position of managing director of the Company. Mr. H. E. Duke, K.C., with Mr. Harold Simmons, was for the plaintiff, and Mr. L. Langdon, K.C., with Mr. Lionel Benson, for the defendant. Mr. Duke addressed the Court, and Mr. Albert H. Fellows, the plaintiff, gave evidence. The Court adjourned while he was under cross-examination. The hearing was resumed on Thursday. During the evidence for the defence, his Lordship said it was clear that want of capital was the only thing which caused the failure of the Company. It was, he said, impossible to make soap without capital.—Mr. Langdon said that after his Lordship's observations he would only proceed in relation to the question of damages, as to which he asked his Lordship to give judgment.—His Lordship, after having heard the arguments on both sides as to the amount of damages, gave judgment for the plaintiff, awarding him 100%, with costs.

AN INTERPLEADER ACTION was heard at Dewsbury County Court on Tuesday, July 26, by Judge Gent, in which the claimant was Mrs. Elizabeth Gloyne, and the defendant Mr. Thomas Pollitt, moneylender, Oldham Road, Manchester, the case arising out of the fact that Pollitt issued execution for 2*l.* odd against Charles Glynn Gloyne, chemist, Market Place, Dewsbury, and had goods seized from his shop to the required amount. These goods were said to belong to Mrs. Gloyne. A further claim of 25*l.* for damages was withdrawn. On behalf of the claimant it was stated that in October 1906 Gloyne executed a deed of assignment, and in the March following his wife purchased the stock and fixtures, etc., at a cost of 185*l.* Since that time Gloyne had managed and carried on the business, his wife being responsible for all claims. Gloyne gave evidence, in the course of which he

admitted that a great portion of his liabilities was for borrowed money. Mrs. Gloyne lives at Filey, and is an invalid. For some months they had been expecting to dispose of the business. The same sign had been over the shop for sixty years. Witness said the bailiff walked into the shop and took the goods, which included 50 bottles of rheumatic tablets, 50 bottles tic mixture, 50 bottles cough medicine, 40 bottles of quinine, and 30 sponges. For the defence Mr. Hinchcliffe submitted that there were twenty-four trade registered judgments against Gloyne since January 1, 1908. Twelve executions had been paid out by him. His client was a creditor for nearly 40*l.* His Honour found that the goods seized belonged to Mr. Gloyne, and therefore the wife's claim must be disregarded. He accordingly entered judgment for the defendant.

Death.

MR. JOHN EVANS, Ph.C., Oswestry, died on Tuesday, July 26. He had been in indifferent health for some time, but his death was unexpected. Mr. Evans was the youngest son of Mr. Thomas Evans, Nantygollen, and was born in 1848. He was educated at Oswestry Grammar School, and afterwards served his apprenticeship with the late Mr. W. H. Weaver, of Oswestry. He spent some years in London, and passed the Minor examination in November 1873, and the Major in June 1880. Returning then to Oswestry, he acquired the business for many years carried on by the Smale family in the Cross, Oswestry, and carried it on until 1907, when he retired. He was Secretary of the Dispensary, Oswestry.

Thursday's Drug-auctions.

At the auctions of new and old drugs a dragging tone prevailed, the bulk of the offerings being bought in. Where business was effected, prices, with the few exceptions of asafoetida, buchu, calumba, and coca-leaves, were in favour of buyers. Cape aloes was lower owing to freer offerings, and other descriptions were neglected. Common Sumatra benzoin was forced off at lower rates. Annatto-seed was cheaper. Buchu sold at famine rates. Indian cardamoms sold steadily, but Ceylon were about 1*d.* lower. Ceylon coca-leaves were dearer, and calumba fetched an irregular advance. Cascara easy. Dragon's-blood quiet, and gamboge firm. Jamaica honey flat and easier for the medium qualities. Ipecacuanha slightly cheaper for Matto Grosso. Myrrh and nux vomica were neglected, while rhubarb continues cheap. Grey Jamaica sarsaparilla steady, but Native easier. Tinnevely senna was uninteresting, and beeswax was flat, offerings not tempting buyers. The following table shows the quantity of goods offered and sold:

Offered Sold			Offered Sold		
Aconite	10	0	Dogwood bark.....	1	0
Aloes—			Dragon's-blood ..	38	4
Cape	39	19	Elemi.....	24	0
East India (cs.)	11	0	Ergot	5	0
Socotrine (kegs)	30	0	Fennel-seed.....	110	0
Zanzibar (cs.)	19	1	Gamboge	13	0
Ammoniacum	5	0	Gentian powder...	4	4
Aniseed (Russ.)	30	30	Gentian root	30	0
Annatto-seed	116	5	Gum acacia.....	261	3
Asafoetida	43	28	Honey—		
Balsam Peru	3	0	Chilian	37	0
Balsam tolu.....	15	0	Cuban	14	0
"Beans"	21	0	Hayti.....	10	0
Benzoin—			Honolulu	113	0
Palembang	10	0	Jamaica	297	98
Siam	6	0	New Zealand ..	1	0
Sumatra	236	81	Insect-wax (China)	5	0
Buchu	21	17	Ipecacuanha—		
Calumba	13	13	Cartagena.....	9	2
Camphor—			Matto Grosso ..	11	7
Chinese crude...	9	0	Minas.....	1	0
Jap. ref.	20	0	Jalap	2	0
Cannabis indica ..	8	0	Joewood bark ..	1	0
Cantharides (Ch.)	1	0	Kamala	3	0
Cardamoms & seed	259	169	Lime-juice	8	0
Cardamom shells.	20	0	Mastich	7	0
Cascara sagrada...	100	0	Matico	5	0
Cascarilla	25	11	Menthol	5	0
Cashew-nuts	30	0	Myrrh	107	0
Coca-leaves	16	16	Nux vomica.....	659	0
Cochineal	10	0	Oil—		
Colocynth and pulp	16	0	cinnamon	10	0
Copaiba	2	2	citronella	27	0
Coriander.....	7	7	eucalyptus	25	0
Croton-seed	2	0	lime	11	4
Cubebs	4	0	peppermint	4	0
Cuttle-fish bone ..	193	0	Olibanum.....	19	0

Offered Sold		Offered Sold	
Orange-peel (Malta)	15 ... 0	Senna and pods—	
Orris	15 ... 9	Alex.	57 ... 20
Patchouli-leaves	17 ... 0	Timevelly	68 ... 0
Quassia chips (tons)	3 ... 0	Squill	25 ... 0
Quillaia	50 ... 0	Sticklac	30 ... 0
Rhubarb (China)	36 ... 7	Tamarinds	54 ... 0
Sandalwood chips	60 ... 0	Tragacanth	1 ... 1
Sarsaparilla—		Turmeric	1085 ... 0
Grey Jamaica	11 ... 11	Wax (bees)—	
Guatemala char.	47 ... 0	Aden	18 ... 0
Honduras	3 ... 0	Australian	21 ... 0
Lima	16 ... 4	Cape	1 ... 0
Native Jam.	26 ... 6	East Indian	74 ... 0
Scammony-root	11 ... 0	Jamaica	32 ... 8
Seedlac	412 ... 50	Mozambique	5 ... 5
Senega	3 ... 0	Spanish	15 ... 0
Shellac	1 ... 1	West Indian	1 ... 0
		Zanzibar	8 ... 0

Higher	Easier	Lower
Buchu	Aloes (Cape)	Benzoin (common
Calumba	Honey (Jam.)	Sumatra)
Coca-leaves (Ceylon)	Orange oil	
Copper sulphate	Sarsaparilla	
	(native Jam.)	

ACONITE.—Ten bags of ordinary Japanese were limited at 32s. 6d., at which sales are occasionally made.

ALOE.—Cape has arrived more freely, 99 cases being catalogued, of which 60 cases had not arrived in time. Prices were about 1s. to 1s. 6d. easier where business was done. Good bright hard firsts Mossel Bay (20-per-cent. tares) were held at 34s., but less would be taken. Slightly dull and soft, 31s.; very drossy to drossy ullaged, 30s.; very soft and dull to softish, 27s. to 29s. Two cases Algoa Bay (shipping tares) sold at 28s. for broken and drossy. Of Zanzibar in skins 19 cases offered, and one sold at 62s. 6d. per cwt. for fair hard hepatic.

AMMONIACUM.—Three cases good pale mostly free almonds were bought in at 75s., and two cases dark slightly blocky at 70s.

ANISEED.—Thirty bags dull Russian sold at from 19s. to 20s. per cwt.

ANNATTO-SEED.—In auction 10 bags fair Madras were held at 3½d., and five bags fair Ceylon sold cheaply at 1d. at the close of the sale. Privately sales of fair bright have been made at 3d. per lb.

ASAFETIDA.—A new parcel from Bombay offered and sold at valuations, comprising mostly small brownish gum, mixed with stones, root, etc., for which 6l. per cwt. was paid.

BALSAM PERU.—Three cases bag of direct import from Acajutla were limited at 7s. 8d. per lb.

BALSAM TOLU.—A new lot of 15 cases offered, and a bid of 11½d. is to be made for four cases of rather soft of fair flavour; 11d. is wanted for slightly drossy and soft, and 8½d. for slightly soft to hard drossy. We understand the bid mentioned above was not accepted, 1s. being wanted.

BENZOIN.—The chief interest centred in 81 cases Sumatra, which were forced off at a reduction, 46 cases of common false packed thirds realising from 75s. to 77s. 6d., and for the remaining 35 cases of ordinary seconds, with small almonds and slightly false packed sides, from 5l. to 5l. 7s. 6d. was paid. Four cases of dusty Siam siftings and soft block of good flavour were bought in at 6l., a bid of 5l. 2s. 6d. being refused; two cases of medium to bold free almonds were bought in at 26l. 10s. Ten cases Palembang were held at 57s. 6d., at which private sales have been made.

BUCHU.—The exceptionally keen bidding for round leaves proved a feature of the sale, only 6 bales of this description being offered. Prices opened at 4s. 8d. and finished at 5s. 10d. for fair to good green slightly stalky leaves, this showing an advance of about 1s. 10d. on the previous public sale, and one of 1s. 4d. on private sales. Of ovals, seven bales sold at from 2s. to 2s. 2d. per lb., being an advance of 1d., for yellowish to green, and two bales yellow oval sold at from 1s. 6d. to 1s. 10d. Three bags fair green longs sold at 2s. A bag of so-called "river" buchu and a bag of spurious longs were bought in, as was also a bale of *B. pulchella*.

CALUMBA.—Dearer. Thirteen bags offered, of which five had been sold privately, and the remainder sold at an irregular advance, 47s. being paid for yellowish washed sorts, and 47s. for ordinary dull.

CAMPHOR (CRUDE).—Nine cases China were held at 152s. 6d. per cwt.

CAMPHOR (REFINED).—Twenty cases 2½-lb. Japanese slabs were held at 1s. 6½d.

CARDAMOMS.—Rather more than half the offerings sold, at steady prices for Indian and at a decline of 1d. for Ceylon-Mysore, the rates paid being as follows: Ceylon-Mysore, fine bold pale, 2s. 5d. to 2s. 7d.; bold medium pale, 2s. 2d., (split) 2s. 1d.; small and medium pale, 1s. 10d. to 2s., (split) 1s. 9d.; small pale, 1s. 6d. to 1s. 7d., (split) 1s. 4d.; brown and split, 1s. 2d.; pale to good seed, 1s. 7d. to 1s. 8d.; Indian from Calicut, bold palish, 2s. 3d.; bold and medium ditto, 2s. 1d. to 2s. 2d.; small and medium, 1s. 9d. to 1s. 10d.; tiny, 1s. 6d. to 1s. 7d.; bold pale split, 2s. 3d.; small and medium split, 2s. 1d. to 2s. 2d.; small, 1s. 9d. to 1s. 10d.; brown and split, 1s. 2d. to 1s. 3d.; seed, 1s. 9d.; Mangalore, bold round spotty, 2s. 7d.; bold and medium ditto, 2s. 2d. to 2s. 5d.; small, 1s. 10d.; tiny, 1s. 7d. to 1s. 8d.; brown and split, 1s. 3d. to 1s. 5d.

CASCARA SAGRADA.—A parcel of 100 bags fair 1907 crop was held at 35s. net and gross for net.

CASCARILLA.—A sea-damaged parcel of nine packages sold on underwriter's account at from 20s. to 44s. per cwt., according to damage. A bale of sound fair leanish quill realised 60s., good part silvery being held at 70s.

COCA-LEAVES sold at dearer rates, 16 cases Ceylon-Huanuco, all that offered, realising 1s. 6d. per lb. for mostly brownish-green.

COLOCYNTH.—Fair pale Turkey apple is obtainable at 1s.; three cases small pale broken apple were bought in at 9d., and 12 bales pulped at 7d. per lb.

COPAIBA.—Two casks of filtered Maranham of direct import sold at 1s. 11d. per lb., being steady.

CORIANDER.—Seven bags from Ceylon sold at 4s. per cwt. for ordinary, mixed with foreign matter.

CROTON-SEED.—Two bags, all that offered, of fair bright Ceylon were limited at 50s. per cwt.

DRAGON'S-BLOOD.—Quiet. Good reboiled lump was held at 11½ 10s., and reed at 10½ 10s. per cwt. Two cases of common dull Singapore damp lump sold at 6l. per cwt., and two cases common seedy lump at 5l. 10s.

FENNEL-SEED.—Good bright East Indian were bought in at 25s. per cwt.

GAMBOGE.—Two cases of good Siam pipe of bright orange fracture, slightly blocky, were limited at 13l. 15s., and fair slightly mixed ditto at 13l. 10s.

GENTIAN.—Thirty bags of rather lean were held for 19s. per cwt.

GENTIAN-POWDER.—Four kegs of English ground, guaranteed genuine, sold at 20s. per cwt.—no allowances or discount.

HONEY.—Jamaica was flat, only a few packages selling at easier rates for medium qualities. 30s. was refused for good pale set. *Liquid*, fair bright amber, sold at 27s.; darkish to fair brown liquid, 25s. 6d. to 26s.; dark thick liquid, 25s.; set, good to fine pale, 28s. to 30s.; fair yellow to yellowish, 27s. to 28s.; and common brown, 21s. per cwt.

IPPECUANA.—Matto Grosso sold at slightly easier rates, two bales fair bold to rather lean sound going at 8s. 3d., and for six bales sea-damaged from 6s. 8d. to 8s. per lb. was paid. A bale of ordinary grey Cartagena realised 5s. 7d., and a bale of ordinary pickings 3s., both without reserve.

LIME-JUICE.—The arrivals comprise 118 packages from Dominica. In auction 1s. was bid and refused, 1s. 3d. being wanted for pale raw West Indian.

MENTHOL.—Five cases of Suzuki brand were bought in at 9s. 2d. per lb.; privately market is quiet at 9s. 2d. to 9s. 3d. per lb. spot.

NIX VOMICA.—Neglected; 600 pockets dull Calcutta were bought in at 6s. 6d. per cwt.

OIL, CINNAMON.—Ten cases Ceylon leaf were limited at 2½d. per oz.

OIL, CITRONELLA.—Twenty cases Java were bought in at 2s. per lb., the limit being 1s. 10d.

OIL, LIME.—Four cases of hand-pressed West Indian sold at 6s. per lb.

OIL, PEPPERMINT.—Four cases Hale & Parshall's brand (American) were held at 9s. 9d. London terms.

OLIBANUM.—Nineteen cases slightly blocky siftings were bought in at 25s.

ORRIS.—Six serons of Mogador were bought in at 27s. 6d., and four bags had been sold privately; five casks of dull Florentine sorts sold cheaply without reserve at 27s. per cwt.

QUASSIA CHIPS.—Three tons were held at 11l. 10s. per ton.

QUILLAIA.—Fifty bales were bought in at 25l.; privately sales have been made at 22l. 10s.

RHUBARB.—Quiet. Three cases of medium to bold round horny High-dried with three-quarter good pinky fracture

sold at 6½d.; a case of bold flat Canton with three-quarter fair pinky fracture, quarter grey and dark, rather spongy, sold at 11d., and two cases good Canton pickings, part spongy, at 9d. per lb. subject. A case of medium flat High-dried Shensi sold at 1s. 2d.

SARSAPARILLA.—Genuine grey Jamaica was steady, 11 bales realising 1s. 2d. to 1s. 3d., the higher price being paid for part mouldy and perished, as well as fair fibrous quality. Native-Jamaica was in easier tendency, three bales fair red realising 10d., and a further three bales sold without reserve at 8d. to 8½d. per lb. A lot of two bales Lima-Jamaica sold at 9½d., and of a further 14 bales Lima two were taken at 10d. for fair. Honduras was limited at 1s. 3d., and 47 bales of Guatemala character were bought in at 9d. per lb.

SEDLAC.—Fifty bags of fair Karachi sold at 50s. per cwt.

SENEGA.—Quiet, with spot sales at 2s. 2d. per lb. net. In auction five bales of good were bought in at 2s. 4d. net.

SENNA.—No Tinnevely sold, only 31 bales first-hand being offered, for which 1½d. per lb. was bid and refused for common small leaf, 1½d. being wanted. Of Alexandrian a bale of green siftings sold without reserve at 2d., and 6 bales sea-damaged half-leaf at 2½d. per lb. Ten bales Alexandrian siftings were held at 2½d. per lb. Six bales fair pods sold at 5½d. per lb. subject.

WAX (BEES).—Steady for Jamaica, six packages of which realised 7l. 10s. per cwt. for mostly ordinary dark brown with a few fair bright pieces; 7l. 15s. was wanted for good bright; a further 21 packages of mostly ordinary dark were bought in at 7l. 15s., the quality not tempting buyers. Five bales of Mozambique character from Lisbon sold at 6l. 17s. 6d. per cwt. No good Madagascar or Zanzibar offered.

From Bergen our correspondent writes that the *cod-liver-oil* market is quiet, but apparently firm, at the unaltered quotation of 99s. 6d. per barrel c.i.f. for finest non-congealing Lofoten quality, but only a retail business is being done. The exports from Bergen up to date amount to 5,460 barrels, against 7,060 barrels at the same date of 1909.—The following telegram from the First Minister of the Zanzibar Government has been communicated to Reuter's Agency in regard to the Zanzibar clove crop: "In both the Zanzibar and Pemba plantations the first picking will be exceptionally light. The crop is rather better in the north of Pemba than in the south, and the centre is less favourable than both north and south. In Zanzibar the conditions as regards the first picking are the same as in Pemba. The trees show signs of a second picking, which is much more favourable, but will not be general before the end of the year. The north of Pemba shows better signs than the south and centre. The size of the second picking is still uncertain, and circumstances may perhaps arise for modifying the forecast of the second picking."—As regards the leading Sicilian essential oils there is nothing new to report. The demand for *lemon* is quiet at primary sources, with sellers holding off, but with a firm order, prices may be shaded: from 3s. 4d. to 3s. 6d. per lb. c.i.f. is quoted. *Bergamot* oil is quiet at unaltered rates, and *orange* is neglected, with holders inclined to be easier in their views at from 5s. 8d. for *sweet* and 5s. 10d. c.i.f. for *bitter*. *Copper sulphate* is dearer, Liverpool brands for prompt delivery having been advanced to 17l. 15s. per ton.—At the *indiarubber* auctions about 180 tons plantation offered and sold at generally lower prices. The average price obtained over the whole sale works out at 7s. 8½d. per lb., as against an average of 8s. 9d. at the previous sale a fortnight ago. Privately the market has been flat, fine hard Pará selling down to 9s. 2½d., chiefly for August-September delivery.—*Quicksilver* closes at 8l. 12s. 6d. for firsts and 8l. 7s. for seconds.

Poison Licences.

(Poisons and Pharmacy Act, Sec. 2.)

Renewals.

PLYMOUTH.—The Watch Committee of the Town Council have renewed six licences to seedsmen.

SMETHWICK.—The Town Council have renewed the licences granted last year.

Applications.

LIVERPOOL.—Robert P. Ker & Sons, seed merchants, on behalf of G. R. Fleetwood, for Aigburth Nurseries, and R. W. King, for 11 Basnett Street.

WARWICKSHIRE COUNTY COUNCIL.—The application by John Liddington, Albert Street, Rugby, came up on July 20. The Weights and Measures Committee reported that the reasonable requirements of the public in Rugby and neighbour-

hood are met, and recommended that the application be not granted. The Council agreed.

It is intimated that no appeal is to be made by the defendant in the action *Pharmaceutical Society v. Pecover* (an assistant to Hobbies, Ltd.). It stands, therefore, that an employee of a company licensed to retail horticultural poisons may only sell such poisons if he himself is licensed.

Summer Outings.

• Visit to Messrs. Evans' Laboratories.

A party of thirty chemists from Stoke, Newcastle (Staffs), Nottingham, Bradford, Sheffield, Sutton-in-Ashfield, Wath, and other towns visited the laboratories of Messrs. Evans Sons Lescher & Webb, Ltd., Liverpool, on Thursday, July 21. They were met at the station by Mr. W. C. Brinson, who took them to 56 Hanover Street, where each was introduced to the directors of the Company; then they were shown over the laboratories by Mr. Herbert Evans and Mr. Morris, Ph.C. They had every opportunity of seeing how things are done on the large scale, and surprise at the huge quantities handled equalled the delight at the precision exhibited throughout. The party lunched in the Reform Club, where Mr. Brinson thanked the directors for their hospitality. Mr. Jno. J. Evans, in reply, said it afforded him very great pleasure to meet so many good friends. After luncheon Mr. Brinson took the party round Liverpool and as far as New Brighton, where all assembled again at the Hôtel Victoria for dinner at 7 p.m., Mr. W. P. Evans presiding, Mr. J. N. Evans and Mr. Kenneth Evans occupying the vice-chairs. After dinner Mr. Weston Poole proposed a hearty vote of thanks to the directors for the royal way they had been entertained; this was seconded by Alderman Wain, who said that in his long experience of doing business with the firm everything had been as well done, from a business point of view, as the entertaining had been done that day. Mr. Norwood (Wath) supported, and Mr. J. N. Evans replied. Then Mr. Brinson proposed "The Retail Trade," which Messrs. Briggs, Stanley, and Widdowson acknowledged. In the course of the evening Mr. D. H. Oxen gave recitations. The party returned to Liverpool by the 10.35 boat, then entrained to their various destinations, getting home with "the milk in the morning."

From Plymouth.

The annual outing of the Junior Section of the Three Towns and District Association of Pharmacists took place on Wednesday, July 20. A motor launch was chartered to convey the party up the river Tamar, but owing to a breakdown at the start the members were obliged to proceed by rail to Bere Alston. Thence a short walk through some beautiful woods brought them to their destination on the river bank, where, at Rose Cottage, tea was provided. Photographs of the party were taken, after which they ferried across to the quaint old Cornish village of Calstock, where an hour or so was pleasantly spent. On the return journey by rail a vote of thanks was accorded to the Secretary (Mr. Cyril C. U'Ren) for arranging this very enjoyable trip.

West Ham Pharmacists' Association.

On Thursday, August 4, the annual ramble of the members will take place, conducted by Mr. H. Soper. Train leaves Plaistow at 2.44 p.m. for Upminster. A walk has been arranged through Upminster Common to Great Warley, where tea will be served; after which the return journey will be taken by another route.

At Much Wenlock.

The annual excursion of the Wolverhampton and District Chemists' Association took place on Thursday, July 21, the party comprising Mr. and Mrs. F. J. Gibson, Mr. and Mrs. S. Phillips, Mr. and Mrs. Fellows, Mr. and Mrs. J. H. Coleman, Mr. and Mrs. H. E. Cullwick, Mr. and Mrs. Stanway, Mr. and Mrs. M. R. Warner, Miss Bill, Mrs. Howell, and Mrs. Willcock, the President and Mrs. Dunn, Alderman W. G. Cross, Mr. and Mrs. Hunt, Mrs. Kitchen, and Councillor Willcock. Much Wenlock was reached about 4 o'clock, and a pleasant afternoon and evening were spent, tea being served at the Gaskell Arms.

The Botanicals.

The staff of the Manchester house of Messrs. Potter & Clarke, Ltd., journeyed to Harlington on July 23, when the beautiful Beresford Dale and the lovely Manifold Valley were visited. An excellent lunch was served at the Charles Cotton Hotel, Harlington, when the toast of "The Firm" was honoured right heartily. High tea was partaken at the Hotel Rudyard, after which the party enjoyed a trip round the Rudyard Lake before returning to Manchester.